



CERTIFIED SAFETY
Worldwide!



IBEDA
Zertifizierung
SICHERHEITSEIN
: DS100
/AS4603 FA
: 2012
3,5;MP :5,0 b
SANLEITUNG

THE WHOLE WORLD OF
GAS SAFETY ENGINEERING



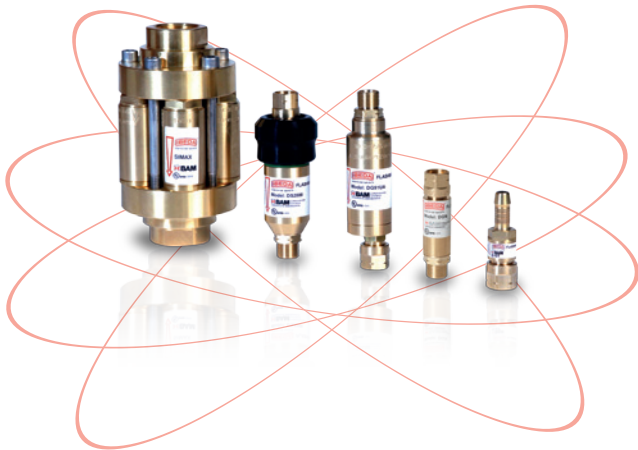
SECURE THE ADVANTAGES!

Effective synergies and new possibilities abound when you combine the IBEDA product lines of Gas Safety Engineering, Flame Spraying, Gas Manifold Systems and Autogenous Engineering.

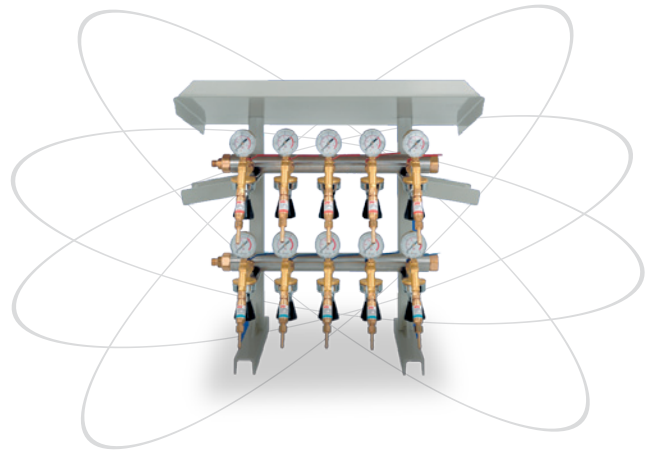
That means: flexible, affordable, certified and safe products and production solutions from a single supplier, as well as conservation of valuable natural resources.

We will never compromise on safety. We are committed to the ongoing development of new products as well as continuing to improve our existing products. We are able to provide well-engineered and reliable safety solutions for every industrial application, all with certification!

GAS SAFETY ENGINEERING

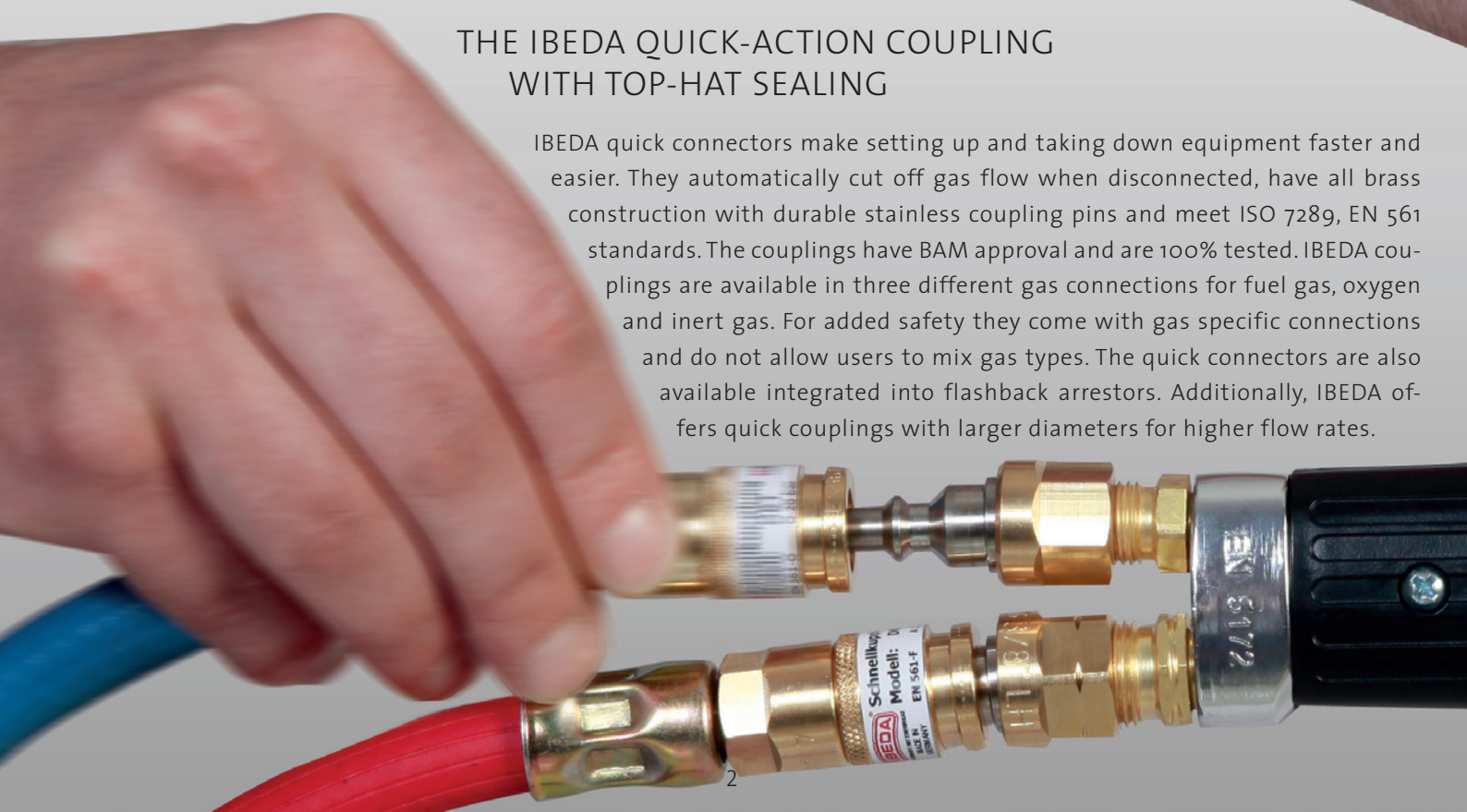


GAS MANIFOLD SYSTEMS



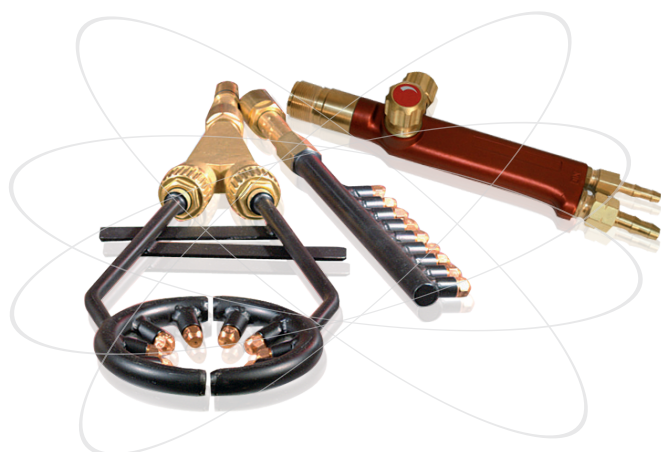
THE IBEDA QUICK-ACTION COUPLING WITH TOP-HAT SEALING

IBEDA quick connectors make setting up and taking down equipment faster and easier. They automatically cut off gas flow when disconnected, have all brass construction with durable stainless coupling pins and meet ISO 7289, EN 561 standards. The couplings have BAM approval and are 100% tested. IBEDA couplings are available in three different gas connections for fuel gas, oxygen and inert gas. For added safety they come with gas specific connections and do not allow users to mix gas types. The quick connectors are also available integrated into flashback arrestors. Additionally, IBEDA offers quick couplings with larger diameters for higher flow rates.

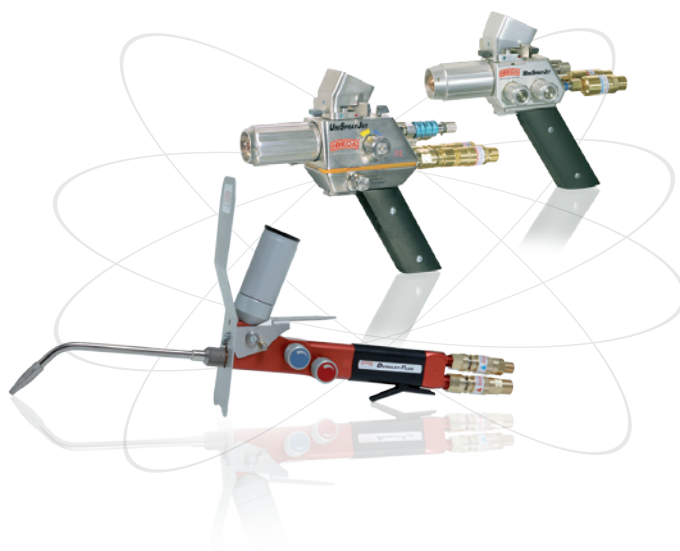


CERTIFIED SAFETY – WORLDWIDE!

AUTOGENOUS ENGINEERING



FLAME SPRAYING



SAFETY FIRST

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CERTIFIED SAFETY

YOU CAN RELY ON

IBEDA gas safety devices protect the lives of your workers. With the use of IBEDA safety devices, you meet the important legal requirements for using the proper equipment when handling gases.

Contrary to many other manufacturers IBEDA guarantees a 100% function test of its products before leaving the factory.



AT A GLANCE

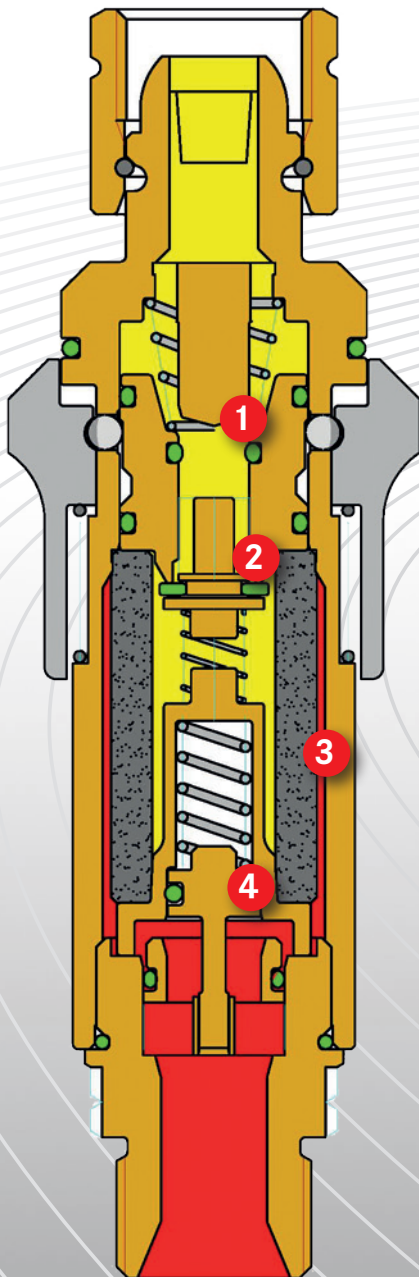
- IBEDA safety devices and quick-action couplings fulfill the requirements of international standards, such as EN 730, EN 561, ISO 5175 and ISO 7289.
- IBEDA safety devices and quick-action couplings are design-type tested.
- IBEDA safety devices and quick-action couplings have met worldwide certification standards.
- IBEDA safety devices and quick-action couplings are subject to production monitoring by neutral testing institutes.
- IBEDA safety devices and quick-action couplings are permanently tested by 3rd party testing institutes.
- IBEDA safety devices and quick-action couplings are submitted to a 100% function test.
- IBEDA safety devices are manufactured and examined for quality according to Quality Management System EN ISO 9001 and these processes are documented and logged.

IBEDA SAFETY DEVICES

HELP PREVENT ACCIDENTS AND EQUIPMENT DAMAGE

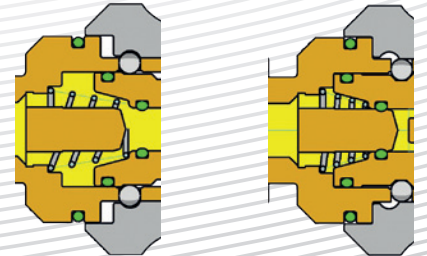
IBEDA SAFETY DEVICES HELP PREVENT:

- Further gas flow in the case of pressure shocks
- The entry of air or oxygen into the distribution line or single cylinders
- Flashback which is the rapid propagation of flame down the hose
- Further gas flow in the case of burnback



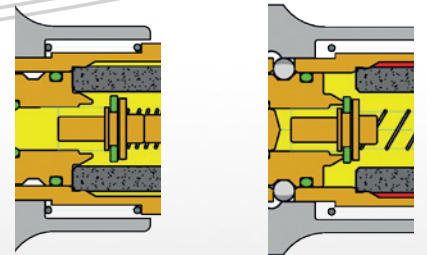
1 Pressure-sensitive gas cut-off valve (PV)

- The pressure-sensitive cut-off valve stops the gas flow in the event of pressure shocks.
- The safety device can be manually reset to continue working



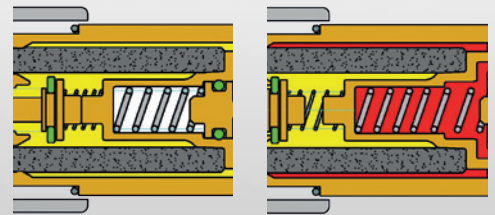
2 Gas non-return valve (NV)

- The gas non-return valve prevents dangerous gas mixtures
- The gas non-return valve ensures the gas only flowing in the intended flow direction



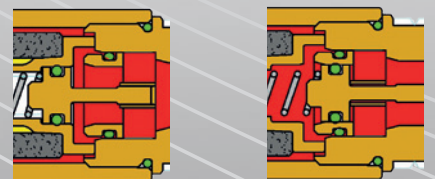
3 Flame arrestor (FA)

- The flame arrestor cools the flame down to below the ignition temperature.
- The flame arrestors prevents flashback



4 Thermal cut-off valve (TV)

- The thermal cut-off valve prevents excessive temperatures
- The thermal cut-off valve closes automatically at a certain temperature and cuts off the gas flow



IBEDA TECHNIQUE

OVERVIEW

TECHNICAL DATA

Types	SR	SRT	DG	DGN	DGNDK	DS1000	DEMAX 5N	DG91	DG91N	DS2000	DG91NH0,5	SIMAX 3N	SIMAX 5N	SIMAX 8N	GRS91	GT	TT	GG	GDK	DKST	DKSG	DGU	DGNU	DG91UA
Approval																								
EN 730-1	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
BAM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
UL	x	x	x	x	x		x	x	x	x		x	x	x		x	x	x			x			x
SABS	x	x	x	x	x	x	x	x	x	x		x	x	x		x	x	x		x	x			x
GOST			x	x									x	x										

(EN730-1)																								
NV (Gas non-return valve)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
FA (Flame arrestor)	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
TV (Thermal cut-off valve)		x		x	x	x	x		x	x	x	x	x	x									x	
PV (Pressure sensitive cut-off valve)						x				x														
DF (Dust filter)		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Coupling (EN561)																								
GCOV (Gas cut-off valve)					x															x	x			
QAC (Quick-action coupling)					x															x	x			

Technical data																								
Diameter (mm)	19,5	19,5	22	22	22	35	65	32	32	46	32	88	88	122	32	19,5	19,5	19,5	19,5	19,5	19,5	19,5	19,5	32
Length (mm)	60	60	84	84	116	110	111	107	107	123	107	165	165	174	107	69	75	56	85	85	74	69	69	128
Weight of brass product (g)	91	93	147	153	213	252	1269	348	375	491	375	3300	3890	8230	348	73	60	82	89	129	128	110	112	437
Brass	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Stainless steel				x			x		x		x													

Working pressure (bar)																								
Acetylene	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	2,5	1,5	1,5	1,5		1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5	1,5
Propane/Butane	4,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	10,0	5,0	5,0	5,0	0,1	4,0	4,0	4,0	4,0	4,0	4,0	5,0	5,0	5,0
Natural gas	4,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	5,0	10,0	5,0	5,0	5,0	0,1	4,0	4,0	4,0	4,0	4,0	4,0	5,0	5,0	5,0
Hydrogen	4,0	3,5	3,5	3,5	3,5	3,5	3,0	4,0	4,0	4,0	10,0	4,0	4,0	4,0		4,0	4,0	4,0	4,0	4,0	4,0	2,5	3,0	4,0
Oxygen	25	25	25	25	20	15	25	25	25	15	25	25	25	25	25	20	20	25	20	20	20	25	25	25
Compressed air	25	25	25	25	20	15	25	25	25	15	25	25	25	25	25	20	20	25	20	20	20	25	25	25

APPLICATION

Types	SR	SRT	DG	DGN	DGNDK	DS1000	DEMAX 5N	DG91	DG91N	DS2000	DG91NH0,5	SIMAX 3N	SIMAX 5N	SIMAX 8N	GRS91	GT	TT	GG	GDK	DKST	DKSG	DGU	DGNU	DG91UA
Application																								
Welding 0,5-14 mm	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Welding 0,5-30 mm			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heating 0,5-14 mm	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heating 0,5-30 mm			■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Heating 30-100 mm							■	■	■	■		■	■	■	■	■								■
Heating > 100 mm							■					■	■	■	■	■								■
Flame cutting up to 60 mm	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■
Flame cutting 3-200 mm			■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■
Flame cutting 50-700 mm							■	■	■	■		■	■	■	■	■								■
Flame cutting > 700 mm							■					■	■	■	■	■								
Flame scarfing 50-200 mm				■	■	■	■	■	■	■	■	■	■	■	■	■								■
Flame scarfing 200-500 mm							■	■	■	■		■	■	■	■	■								■
Flame scarfing - 5 flames							■	■	■	■	■	■	■	■	■	■								■
Brazing consumption 4000 l/h			■	■	■	■	■	■	■	■	■	■	■	■	■	■							■	■
Brazing consumption 12000 l/h							■	■	■	■		■	■	■	■	■								■
Brazing consumption > 12000 l/h							■					■	■	■	■	■								
Flame spraying							■	■	■	■	■	■	■	■	■	■								■

■ For cylinder regulators or tapping points

● For torches/cutting machines

	Conversion factor		Air flow rate for DIN couplings in Nm³/h	
Air	1,00	1,0 bar = 0,1 Mpa		DKT; DKG; DKD,
Acetylene	1,20	1,0 bar = 100 kPa	Inlet pressure in Mpa (bar)	DKT-W, DKG-W, DKD-W
Butane	0,86	1,0 bar = 14,28 Psi	0,03 (0,3)	8,5
Natural gas	1,25		0,06 (0,6)	13,0
Methane	1,40	1,0 m = 1,31 cuyd	0,09 (0,9)	16,3
Propane	0,90	1,0 m = 35,32 cu.ft	0,12 (1,2)	19,0
Oxygen	0,95		0,15 (1,5)	21,5
Hydrogen	2,50		0,25 (2,5)	30,0
Ethene	1,02		1,0 (10,0)	105,0
			2,0 (20,0)	160,0

Further data	
Porosity of the sintered element	3 µm for standard applications
Opening pressure of the gas non-return valve	40 + 20 mbar
Melting point of the thermal cut-off valve	130 + 20 °C
Triggering pressure of the pressure sensitive cut-off valve	< 1200 mbar

SAFETY DEVICES

(EN 730 AND ISO 5175) FOR CYLINDER REGULATORS AND TAPPING POINTS



TYPE

**SRT · DGN · DG91N · DEMAX5N
DGNDK WITH D4**

The ideal protection for all applications. Type SRT for smaller soldering, welding and cutting work with single cylinders. Type DGN for all standard protections in welding. DEMAX5N, a parallel connection of 5 DGN for high flow rates on pipe systems. All types are also available without thermal cut-off valve (SR, DG, DG91, DEMAX5).

The DGNDK combines maximum safety which is proven millions of times with the advantages of worldwide standardised couplings within the welding industry.

HIGHLIGHTS

- Dust filter promotes long life
- Gas non-return valve prevents dangerous gas mixtures
- Flame arrestor prevents flashback
- Thermal cut-off valve prevents excessive temperatures

Single cylinder
with **SRT**



SRT the new IBEDA product within the line of safety devices is especially designed for single cylinder installations with smaller flow rates and offers an excellent price/performance ratio.

- Welding up to 14 mm
- Flame cutting up to 60 mm
- Heating up to 14 mm

IBEDA double tapping point
with **DGN**



The standard safety devices for industries and small enterprises. The type DGN covers the most applications and can be used on tapping points as well as on single cylinders. This safety device can be used for:

- Welding up to 30 mm
- Flame cutting up to 60 mm
- Heating up to 50 mm

IBEDA double tapping point with
with **DG91N** and **DEMAX**



Always there, where high flow rates with low pressure drops are necessary for an on-going production process. The high flow rates guarantee a long product life with the highest level of safety.

Depending on type and design, they are applicable for:

- Welding up to 30 mm
- Flame cutting up to 500 mm
- Heating > 100 mm

(EN 730 AND ISO 5175) FOR CYLINDER REGULATORS AND TAPPING POINTS WITH PRESSURE SENSITIVE GAS CUT-OFF

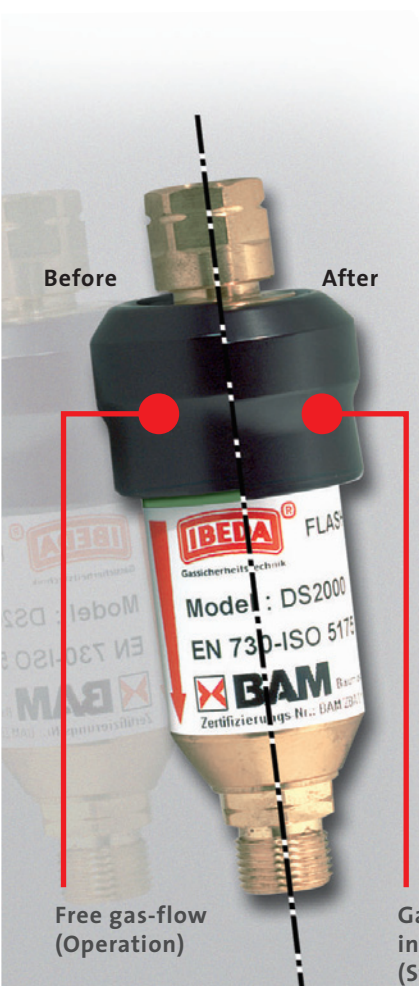


TYPE
DS1000 · DS2000

The safety device types DS1000 and DS2000 offers additional protection from pressure shocks which arise, i.e. from flashbacks causing the gas flow to be interrupted. The green collar shows free flow and is covered by the reset collar. In order to continue working the user has to look for the cause of the flashback. Once the problem is corrected, the safety device is reset and work can be continued.

HIGHLIGHTS

- Dust filter promotes long life
- Gas non-return valve prevents dangerous gas mixtures
- Flame arrestor prevents flashback
- Thermal cut-off valve prevents excessive temperatures
- Pressure sensitive gas cut-off system stops gas flow



Single cylinder
with **DS1000**



The DS1000 offers highest safety and a long product life. This safety device can be used for:

- Welding up to 30 mm
- Flame cutting up to 200 mm
- Heating up to 50 mm

IBEDA double tapping point
with **DS2000**



Highest safety level combined with high capacity offers long product life and protection of investment in industrial use.

- Welding up to 30 mm
- Flame cutting up to 500 mm
- Heating > 100 mm

SAFETY DEVICES

(EN 730 AND ISO 5175) FOR TORCHES / CUTTING MACHINES



TYPE

GG · GT · TT · GG-SS · DG91UA

The IBEDA safety devices type GG, GT, TT, GG-SS, DG91UA offer safety wherever danger occurs. Directly installed on torches these safety devices avoid a gas mixture of fuel gas and oxygen. The built-in flame arrestor extinguishes flashbacks and protects the gas non-return valve, so that it still works after flashbacks.

The GG-SS prevents the „chimney effect“ with cutting oxygen when pre-heating during metal piercing processes.

HIGHLIGHTS

- Dust filter promotes long life
- Gas non-return valve prevents dangerous gas mixtures
- Flame arrestor prevents flashback
- Protection of special burners by direct installation at the inlet

Cutting torch
with **GG**



Either at the flame cutting machine or at the burner the compact design offers the possibility for installation in the smallest possible space.

The safety device can be used for:

- Welding up to 30 mm
- Flame cutting up to 200 mm
- Heating up to 50 mm
- Weight 66 g
- Diameter 19,5mm
- Length 56 mm

Cutting torch
with **GT**



Short and light by design, the GT offers the highest possible safety and comfort for the user. The new pin design guarantees safe connection and hose protection.

The safety device can be used for:

- Welding up to 30 mm
- Flame cutting up to 200 mm
- Heating up to 50 mm
- Weight 84 g
- Diameter 19,5 mm
- Length 73 mm

Heating burner
with **DG91UA**



Always there where high flow rates are needed, the DG91UA with its offset connections can be installed even in places with little space.

The safety device can be used for:

- Welding up to 30 mm
- Flame cutting up to 500 mm
- Heating up to 100 mm

(EN 730 AND ISO 5175) WITH HOSE COUPLINGS (EN 561 AND ISO 7289) FOR TORCHES



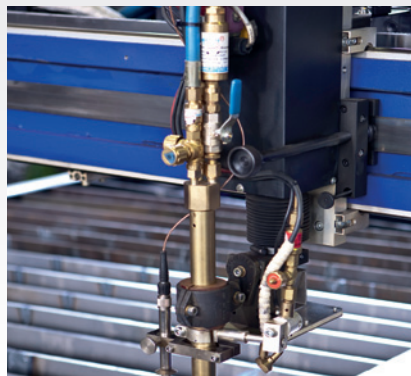
TYPE
 DKST AND D2 PIN · DKSG AND D1 PIN

The types DKST and DKSG combine maximum safety which is proven millions of times with the advantages of worldwide standardised couplings within the welding industry.

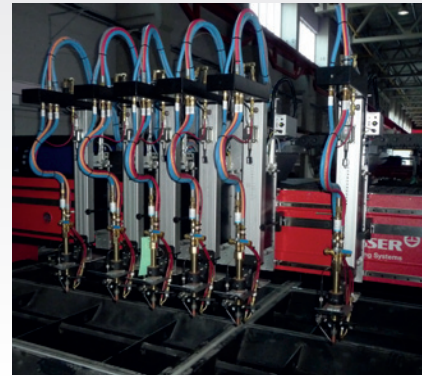
HIGHLIGHTS

- Dust filter promotes long life
- Gas non-return valve prevents dangerous gas mixtures
- Flame arrestor prevents flashback
- Automatic gas cut-off when disconnecting
- Top-hat sealing
- Coded coupling pins to assist in avoiding the mix-up of the products for the different gas types (Fuel gas, Oxygen, Inert gas)

Flame cutting machine
 with **DG91UA**



Flame cutting machine
 with **GG**



Either at the flame cutting machine or at the burner, the compact design (model GG) or the offset connection (model DG91UA) offers the possibility for installation using the smallest possible space.

The safety devices can be used for

- Flame cutting up to 300mm (Model GG) and 700mm (Model DG91UA)

HOSE COUPLINGS

QUICK-ACTION COUPLINGS WITH TOP-HAT SEALING (EN 561 AND ISO 7289)



TYPE

**DKT AND D2 PIN · DKD AND D4 PIN
DKG AND D1 PIN**

Have a look at the new IBEDA video
"Push vs. Pull System":
www.ibeda.com/push-vs-pull.html

IBEDA hose couplings comply with European standard EN 561 and International standard ISO 7289 and are compatible worldwide. With an approved product range we prove our high quality standard.

HIGHLIGHTS

- Push system for easy connection - minimized risk of an unintended disconnection
- integrated gas cut-off valve for shutting off the gas flow automatically when disconnected
- coupling system according to EN 561 / ISO 7289 - worldwide compatibility
- stainless steel coupling pins offer long life
- optimized gas flow for small pressure loss
- coded coupling pins to assist in avoiding the mix-up of the products for the different gas types
- hose pins according to the latest standard EN 1256 and EN 560 allows for a solid and safe hose connection

IBEDA tapping point with
DKD and D2 pin



An IBEDA tapping point equipped with DKD couplings and D2 pins.

- Quick and easy connecting and disconnecting of hose when changing work place
- Leakage-free connection without tools

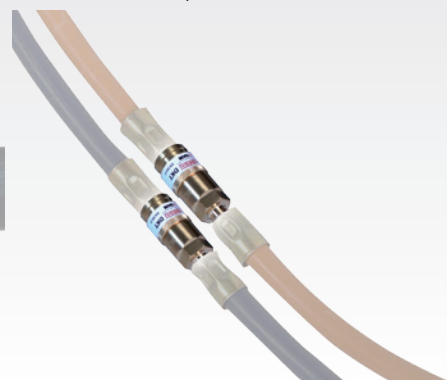
Torch with IBEDA
coupling with top-hat sealing
DKT and D1 pin



Simple and low cost interchange of different torches is possible with IBEDA couplings.

- Low weight, compact and sturdy construction
- Quick vacuum test on injector burners
- Easy one-hand connection

Extension of hoses with
DKT and D2 pin



Simple extension of hoses with IBEDA couplings.

- Torsion-free and tension strong connections
- Due to construction an accidental disconnection and herewith interruption of work is avoided

FOR LARGE HOSE INNER DIAMETER OF 8 MM OR 12 MM



TYPE
GKD AND G4 PIN
GKG AND G1 PIN

Where large hoses have to be connected or disconnected quickly the IBEDA hose coupling of the series GK can be used. For fuel gases, oxygen and inert gases the IBEDA couplings are available in two sizes, ID 8 and ID 12. The connections are conform to EN 561 and are manufactured up to G1/2" connection. The coupling pins are available with or without gas cut-off.

HIGHLIGHTS

- Automatic gas cut-off when disconnecting
- Double o-ring sealing
- Connections of pins and threads per EN 560
- Coded coupling pins to assist in avoiding the mix-up of the products for the different gas types
- Coupling pin with gas cut-off against loss of gas

IBEDA tapping point with
GKD and **G2** pin



Tapping point with coupling connection for large consumers which are used in changing mode.

- Quick connecting and disconnecting of hose when changing work place
- Leakage-free connection without tools

IBEDA gas distributor with **GKG** and **G1** pin



Connection of an IBEDA gas distributor. Changing work place is simple and fast.

- Strong design
- Long product life
- For heavy duty applications

SAFETY DEVICES

(EN 730 AND ISO 5175) STAINLESS STEEL, FOR PURE GAS APPLICATIONS



In addition to the already established DG91N-VA, there are three new flashback arrestor types available which are suitable for pure gas applications: DEMAX5N-VA, DGN-VA and ESF-VA - providing maximum safety and functionality. With these products you are now even more flexible in areas that impose particularly high demands to the material and the environment.

HIGHLIGHTS

- EN 730-1 / ISO 5175
- Gas non-return valve - security against dangerous gas mixtures
- flame arrestor stops flashbacks
- dust filter - protects the gas non-return valve
- temperature-sensitive cut-off valve
- seal material NBR/CR/FKM
- 100% tested

Pure gas application



Stainless steel safety devices are used in case of special requirements in hygiene of flame products or if it is demanded due to special environment, e.g. food, chemical or glass-industry.

- All components in stainless steel or brass nickel plated
- Sealing materials relating to requirements

**FOR MANIFOLDS (EN 730, EN 15615 AND ISO 5175),
FOR CENTRAL GAS SUPPLY STATIONS (EN 14114) AND PIPE SYSTEMS.**



IBEDA safety devices for manifolds and bundle batteries are manufactured to the latest standards. All safety elements of the safety devices (from the high pressure non-return valves or the automatic quick-action shut-off valves to the safety devices with multiple function) are design-type tested according to the latest standards (EN 730-1 and EN 15615) and are suitable for all ranges of capacity.

HIGHLIGHTS

- No gas exchange between cylinder with different pressures
- No entry of air in high pressure hoses
- Safe cut-off of acetylene decomposition of all high pressure parts with flow up to 150 m³/hr
- Gas manifold equipped with all safety devices

IBEDA mobile gas manifold
with **SSE and SIMAX**



IBEDA mobile gas manifold or stationary manifold.

- High pressure non-return valve for acetylene up to 25 bar, for technical gases and oxygen up to 300 bar
- Automatic quick action shut-off for cylinder and bundle batteries
- Safety device with multiple function depending on regulator capacity

Installation in tube system
with **SIMAX8N**



In large gas supply systems single tube system parts or building sections can be protected separately.

- Long-life span through highest capacity
- Simple in maintenance
- Wide capacity range

SAFETY DEVICES

**(EN 730 AND ISO 5175) FOR SINGLE CYLINDERS AND TAPPING POINTS
VACUUM CONTROLLED, ATEX
ANTI-LEAKAGE DEVICE (USED WITH LIQUID GAS), GASSTOP**



TYPE
ATEX AND GASSTOP

The worldwide unique vacuum safety device the IBEDA ATEX is a combination of a safety device and a anti leakage device for use in combination with injector burners. Due to the injector effect, the vacuum valve of the ATEX is opened, thus filling the pressureless hose created by the ATEX. Now the burner can be taken into operation. When using ATEX at a tapping point, no tapping point regulator is necessary.

With its double hose system the GASSTOP prevents leaking fuel gas from the hose system from even the smallest punctures.

HIGHLIGHTS

- Both systems supervise fuel gas hoses
- Smallest leakages are recognized
- Used with propane/butane in ship yards and work under ground level is safe

Double tapping point with **ATEX** and **DS1000**



As soon as a vacuum disappears the gas flow is interrupted. Cutting of the fuel gas hoses, even with hot slag or burning metal parts does not lead to ignition by the hose.

- The whole welding system is supervised
- Welding up to 30 mm
- Flame cutting up to 200 mm
- Heating > 100 mm

Anti-leakage device with room heater

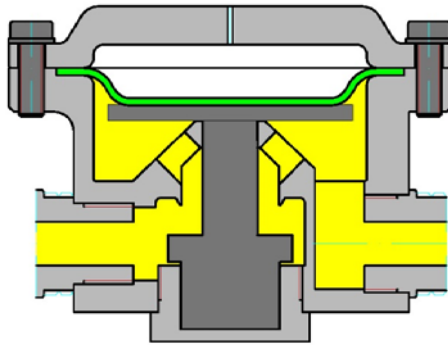


The primary use of the GASSTOP safety device, featuring a double hose and connection nipple is the protection of liquid gas users working under ground level or which are in continuous operation. With the double hose system in all applications uncontrollable leakage (micro leakage) and the accumulation of gas air mixtures are avoided.

- Working pressures from 0,5 to 4 bar adjustable
- Flow rate up to 15 kg/hr depending on hose length
- The safety function is effective over the entire capacity and pressure range

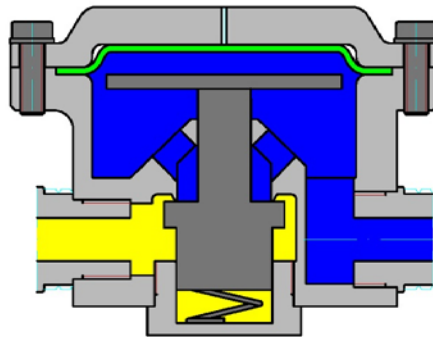
FUNCTION DESCRIPTION - ATEX

ATEX in operation



- The ATEX is only to be used with the integrated flashback arrestor
- For use with injector burners:
 - The injector, working on the Venturi principle, creates a vacuum which causes the valve to open
 - This allows the gas to flow and to be ignited at the burner outlet

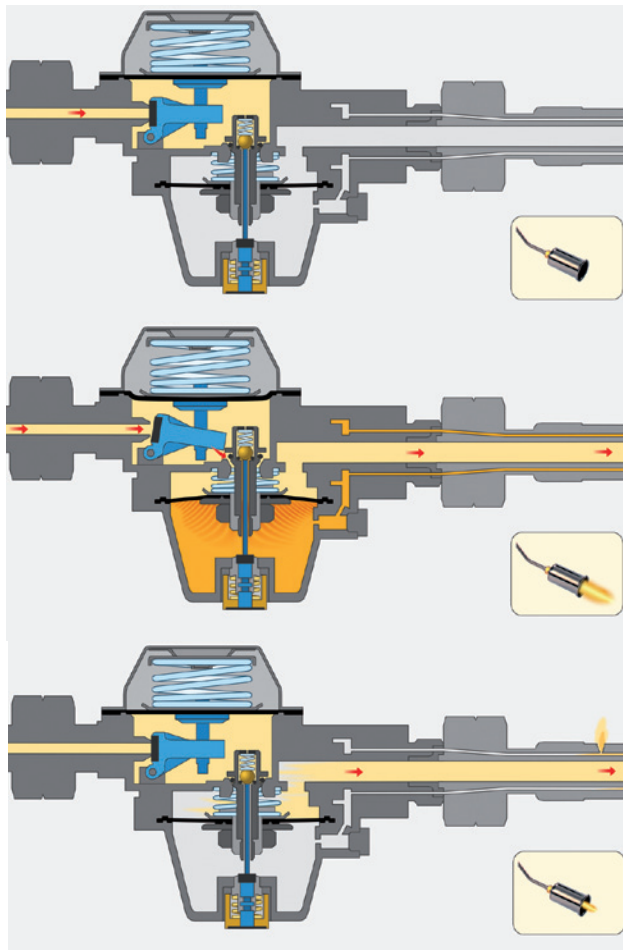
ATEX closed



- Leaky hoses or hose connections result in the vacuum being lost.
- The spring-loaded valve is closed and the gas flow is stopped immediately.

Have a look at the IBEDA video "ATEX":
www.ibeda.com/ibeda-tv

FUNCTION DESCRIPTION - GASSTOP



Open the cylinder valve.
This allows the gas to flow to the valve seat.

By pressing the filling knob, gas enters into the outer hose chamber and into the inner hose. The burner can be ignited.

Burning flame

In the case of defective devices, like a leaky hose or hose connection, the gas pressure escapes from the outer hose chamber and the gas supply is stopped automatically.

Extinguished flame

FLASHBACK ARRESTOR TESTING EQUIPMENT

**FOR THE ANNUAL TESTING OF FLASHBACK ARRESTORS
(EN 730 AND ISO 5175) TYPE PVGD**



TYPE
PVGD

Safety devices have to be tested every year (depending on the country specific regulations). Without changing of the position, flow rate comparison checks can be made. Additionally, the function of the pressure-sensitive valve can be checked. This equipment allows flow rates to be measured as well as testing the function of the pressure sensitive valve (DS1000, DS2000).

HIGHLIGHTS

- Only oil-free air or inert gas are to be used
- Compact design simplifies work on site
- Integrated spanner makes testing of all types possible
- Quick modulation makes test of different sizes simple

Have a look at the IBEDA video "PVGD":
www.ibeda.com/ibeda-tv

Testing unit in use



Testing unit in use



Tests can easily be carried out nearly anywhere. All that is required is oil free air, some water and a little space. Adaptors are available to allow testing of other units.

TESTING LABORATORY

WITH AUTOMATIC OPERATION FOR EXCELLENCE IN PRODUCT SAFETY



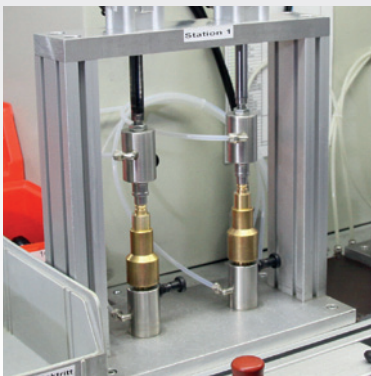
AUTOMATIC TESTING EQUIPMENT FOR GAS RETURN, LEAKAGE AND FLASHBACK TEST

Every product manufactured by IBEDA is tested using our automatic testing equipment – when it leaves the factory we know it works.

HIGHLIGHTS

- Monitored test and production process by third party institutes (BAM)
- Test of every safety device and coupling
- Tests under condition of international standards
- Logged and documented process according to ISO 9001

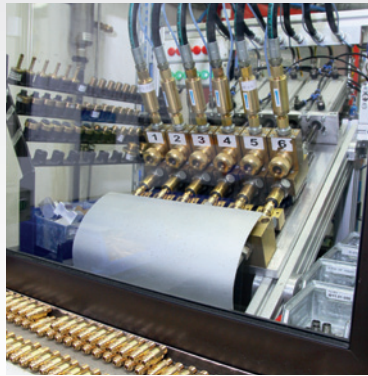
Functional test



Test of safety devices with pressure sensitive gas cut-off DS2000 against gas return, leakage and functioning of thermal cut-off valve.

- Control of allowed leakage of gas non-return valve of $< 50 \text{ cm}^3/\text{h}$
- Leakage test against atmosphere of $< 8 \text{ cm}^3/\text{h}$

Flashback test



Flashback test of safety devices following EN 730-1

- Test under extreme condition with max. pressure
- Supervised mixture of gas mixer and oxygen analyzer

Logging



All tests are SPS and PC controlled and are logged following our ISO 9001 certified quality system.

- Automatic production control
- Controlled test procedures

IBEDA GAS SAFETY ENGINEERING WORLDWIDE IN USE

IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

Bahnhofstraße 27 · 53577 Neustadt/Wied

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.com · info@ibeda.com





IBEDA GAS MIXERS

HIGHEST PRECISION FOR YOUR WELDING AND CUTTING PROCESSES

IBEDA GAS MIXERS

FOR MANY AREAS OF APPLICATION

IBEDA offers an innovative product portfolio of gas mixers for various applications, such as welding technology or glass processing.

Gas mixers can be used to mix two or more technical gases and are available in various versions for different gas combinations and different flow rates.

Depending on the requirements, mechanical, diffusion-mixing or mass flow-controlled mixing systems are used, adapted to the requirements of the respective application, they produce precisely controlled homogeneous gas mixtures and thus ensure high process reliability.

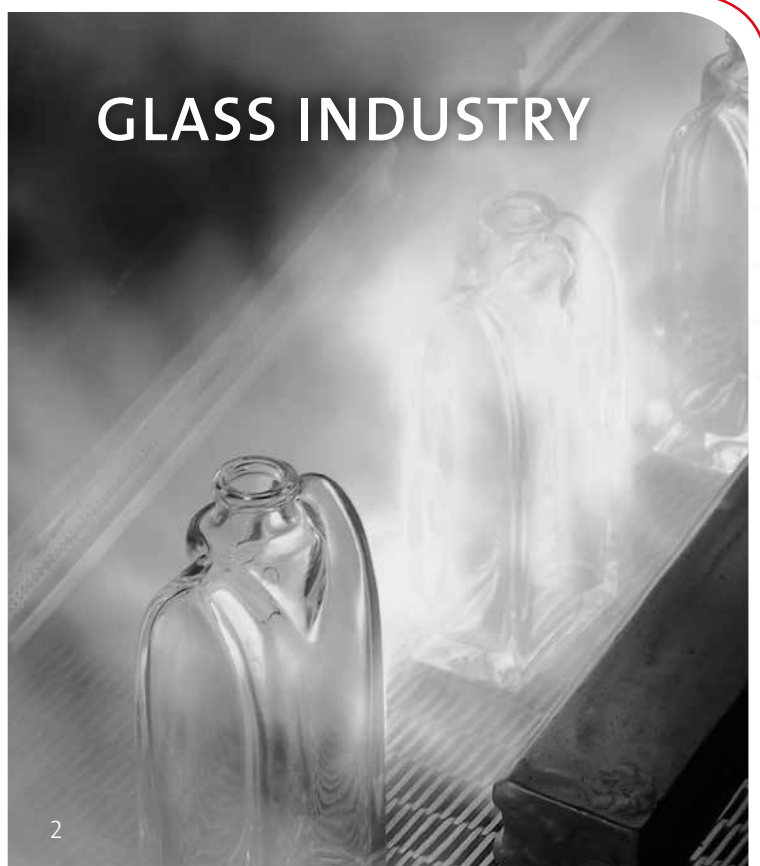
Furthermore, IBEDA offers a wide range of additional components, such as gas analysers, dome pressure regulators, pressure regulation stations and gas filters for efficient delivery of media to the downstream processes.

IBEDA GAS MIXERS OFFER

- High precision for homogeneous mixing quality
- Flexible change of mixtures and fast adaptation to the requirements
- Lower costs of mixed gases due to the use of widely available standard gases
- Possible reduction of storage costs compared to ready-to-use mixtures



**WELDING
& CUTTING**



GLASS INDUSTRY

iMixone

WITH INTEGRATED HIGH-PRESSURE REGULATORS AND FLOW CONTROL

Gas mixer with diffusion-mixing system for two gases with up to three pre-set mixing ratios, especially for welding processes. The IBEDA iMixone is used, for example, in the production of mixed gases for protective gas welding and covers the most frequently used gas mixtures for the MIG, MAG, TIG welding. Due to the mixing principle, this mixer also ensures a constant gas mixture even if the volume of gas withdrawal changes. Additional energy costs are avoided by the use of this principle.



ADVANTAGES

- High mixing precision even if the volume of gas withdrawal changes
- Up to 3 mixing ratios can be pre-set according to customer's requirement
- Cost savings due to the avoidance of storage of different premixes
- Gas inlet filters protect the device against contamination
- Diffusion-mixing principle, no power supply required
- Withdrawal of mixed gas from 5 l/min up to maximum capacity
- Sturdy, compact design
- Low maintenance

EASY HANDLING

- Direct connection to gas cylinders
- Straightforward use due to two integrated high-pressure regulators and high-pressure hose
- Selector switch for selecting the pre-set mixture

HIGH PROCESS RELIABILITY

- Does not depend on the input pressure difference due to integrated constant pressure regulation
- Does not depend on gas withdrawal variations
- Mixture production stops automatically when gas supply is interrupted

iMixone

varioMix

GAS MIXER WITH INFINITELY ADJUSTABLE MIXING VALVE AND FLOW CONTROL

Compact gas mixer for the production of mixtures of two gases, such as argon and CO₂ with variable mixing ratio and flow rate. The **varioMix** provides reliable performance irrespective of variable input pressures.

This gives you flexibility and the possibility to reduce your consumption by the exact dosage and to avoid the use of premixed gases!

No electricity or buffer vessels needed. Each gas mixer is delivered with a wall mount, complies with the regular IBEDA safety standards, is easy to operate and to assemble and is just a high-quality product.

The gas mixer **varioMix** is used, for example, in industrial metal processing, steel industry, shipbuilding and offshore industry, as well as in many other fields of mechanical engineering where high quality of gas supply is an important factor to ensure precise welding and cutting results.



HIGHLIGHTS

- Individual adjustment of mixture and flow rate
- Does not depend on variable input pressures
- Easy handling and assembly
- Compact, space-saving design, sturdy workmanship
- No power supply required

varioMix

proMixvario

GAS MIXER RANGE WITH METERING VALVES FOR HIGH GAS CONSUMPTION

Gas mixer range for the production of gas mixtures of two or more components. The gas mixers **proMixvario** are available in versions for non-flammable gases and for flammable gases. Gas analysis equipment and buffer vessel are offered as an option. Standard mixers are designed for capacity ranges from 15 m³/h to 300 m³/h with a reproducibility of the gas mixture of +/-0.5%. The design of the gas mixer allows full performance which does not depend on the outlet pressure.

The gas mixers **proMixvario** provide a constant pressure regulation of the mixed gases, which is ensured by the use of dome pressure regulators in the individual gas strands. This also ensures compensation with significant input pressure differences (>3 bar).

To protect the downstream components, the gas mixers are provided with filters in individual gas inlets.

The locking mechanism of the gas mixer **proMixvario** makes sure that the mixed gas is proportionally fed even if the pressure of the carrier gas drops (up to the minimum pressure) or that all gas strands are locked if the carrier gas supply is fully interrupted. In addition, the pneumatic valve activated by the carrier gas is blocked in the mixture outlet.

HIGHLIGHTS

- Individually adjusted metering valves (high accuracy)
- High-quality, easy-to-read variable area flowmeter
- Exhaust pipe allows adjustment even without connected loads
- The pneumatic valve is activated by the carrier gas in the mixture outlet
- Gas non-return valve in each gas strand
- Buffer vessel made of stainless steel (optional)
- Bypass (version with buffer vessel): allows precise analysis, independent from the buffered gas mixture
- Gas analyser (optional) with sampling gas treatment



proMixvario

IBEDA GAS MIXERS

WITH MASS FLOW CONTROLLERS (MFC)

Mass flow (MFC) regulated gas mixers for the production of exact gas mixtures. This type of mixer is used where very precise gas mixtures, for example fuel gas/oxygen mixtures, are required, e.g. in the glass industry.

The mass flow regulation technology allows to control disturbance variables such as temperature and pressure variations and to keep the previously defined mixing ratio at a constant level.

A mass flow (MFC) controlled gas mixer can be used to minimise the set-up times during a product change, thanks to the possibility to access previously recorded product-specific flow parameters.

The mixing ratio adjustment occurs electronically and reproducibly and can be done locally via touchscreen or data transmission, which makes this mixer type easy-to-use and user-friendly.

The use of the mass flow technology allows a fully automatic documentation of the mass flow rates of individual gases. The data can be transmitted via USB or interface, e.g. Excel, for evaluation of data.



HIGHLIGHTS

- No buffer vessel required
- Mixing precision $\pm 0.2\%$ abs.
- High adjustment accuracy
- User-friendly operation

GAS ANALYSIS AND ADDITIONAL COMPONENTS

In addition to the gas mixers, IBEDA offers a wide range of additional components and devices which are indispensable for the high-quality, uninterrupted and efficient gas supply.

GAS ANALYSIS



We also offer gas analysers, specifically designed for the use with IBEDA gas mixers. Thanks to the use of gas analysers, the mixing processes can be monitored, documented and integrated into the quality assurance process. Depending on the mixing procedure and the version of the respective gas mixing system, you can use the portable or stationary devices, or even a fully integrated solution. Depending on the application, you can use a thermal conductivity detector, an infrared analyser, a paramagnetic cell or a sensor combination. The state-of-the-art sensor technology and software solutions ensure an exact analysis result.

CENTRAL GAS SUPPLY AND PRESSURE REGULATION

Many processes require pressure-regulating valves for gas tapping from gas cylinders or bundles. IBEDA offers a wide range of central gas supply systems and tapping points as well as dome pressure regulators for the constant pressure regulation in gas mixing processes. Automatic switch-over manifolds with corresponding monitoring and alarm devices can be adapted to the respective processes.



GAS FILTERS



IBEDA gas filters make it possible to separate gaseous media (technical gases) and thus, protect downstream installations and equipment. Mechanical contaminations are removed from the gas flow with great reliability. Therefore, the gas filters do not only increase the service life of the connected equipment, but also increase the dependability of the processes. Filter cartridges can be changed easily and quickly without the necessity of disassembling parts.

GAS NON-RETURN VALVES AND FLASHBACK ARRESTORS

To ensure that all processes run safely and smoothly, non-return valves are used for the respective applications to prevent undesirable backflows of gases and dangerous gas mixtures. In applications with combustible gases, IBEDA safety devices protect against dangerous flashback or burnback.



IBEDA GAS MANIFOLD SYSTEMS WORLDWIDE IN USE

PERSONAL SAFETY



IS OUR TOP PRIORITY!

We are committed to the ongoing development of new products as well as continuing to improve our existing products. We are able to provide well-engineered and reliable safety solutions for every industrial application, all this with certification!



SOLUTIONS FOR GASES

IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

Bahnhofstraße 27 · 53577 Neustadt (Wied)

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.com · info@ibeda.de



IBEDA
FLAME SPRAYING

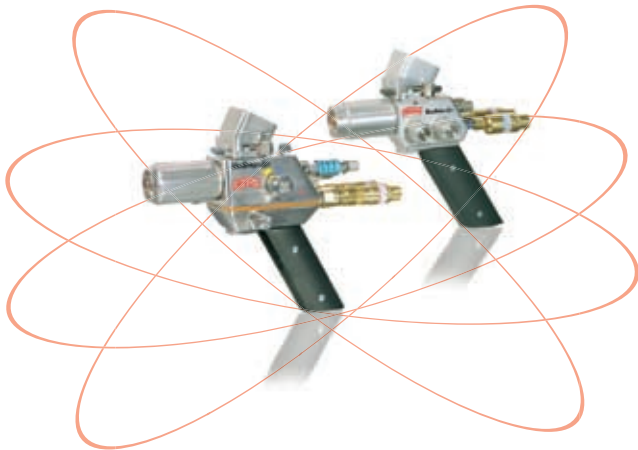
BENEFIT WITH SYNERGY – SECURE THE ADVANTAGES!

Effective synergy and new possibilities arise from the combination of the IBEDA product lines of the IBEDA fields Flame Spraying, Gas Manifold Systems, Gas Safety and Autogenous Engineering.

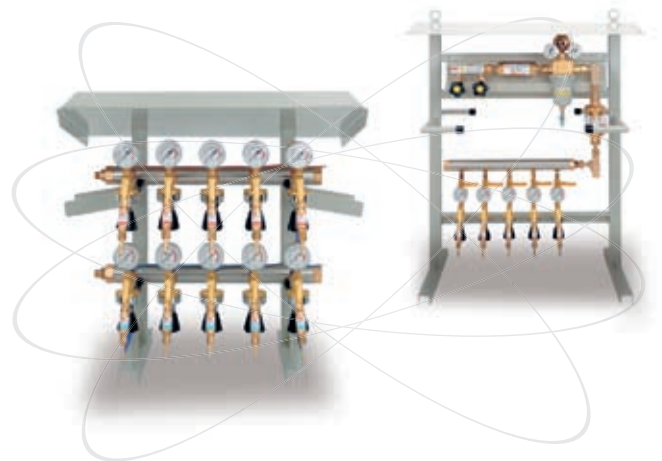
That means: flexible, affordable, certified and safe products and production solutions from a single supplier, as well as conservation of affordable natural resources.

We will not compromise on safety. We are committed to the ongoing development of new products as well as established products. We are able to provide well-engineered and reliable safety solutions for every industrial application - and all this with certification!

FLAME SPRAYING



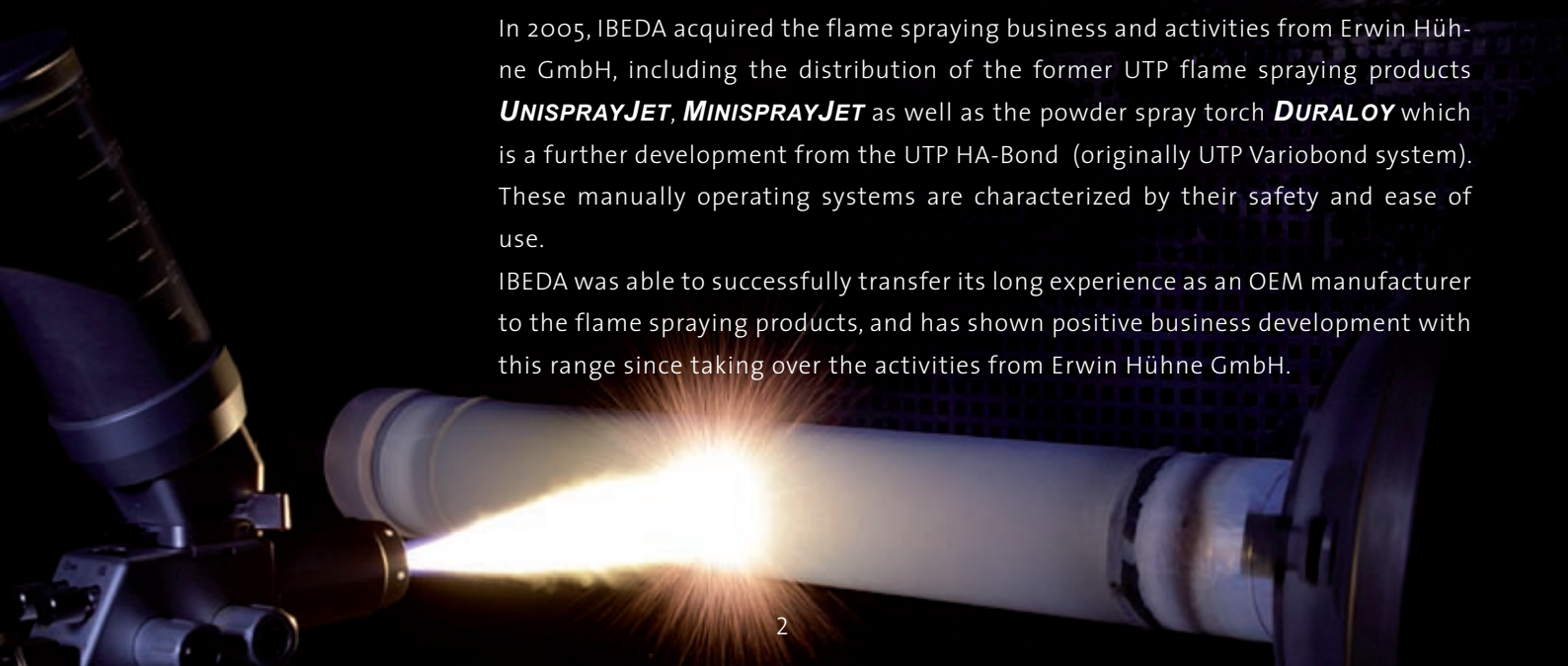
GAS MANIFOLD SYSTEMS



COMPETENCE AND KNOW-HOW

In 2005, IBEDA acquired the flame spraying business and activities from Erwin Hühne GmbH, including the distribution of the former UTP flame spraying products **UNISPRAYJET**, **MINISPRAYJET** as well as the powder spray torch **DURALOY** which is a further development from the UTP HA-Bond (originally UTP Variobond system). These manually operating systems are characterized by their safety and ease of use.

IBEDA was able to successfully transfer its long experience as an OEM manufacturer to the flame spraying products, and has shown positive business development with this range since taking over the activities from Erwin Hühne GmbH.



CERTIFIED SAFETY - WORLDWIDE!

GAS SAFETY ENGINEERING

AUTOGENOUS ENGINEERING



FLAME SPRAYING – FOR ALL INDUSTRIES!

DURALOY

Powder spray torch for coating with self-fluxing alloys

P. 4

DURALOYPLUS

Powder spray torch with quick-action shut-off valve for coating with self-fluxing alloys

P. 4

MINISPRAYJET

Compact flame spraying gun

P. 5

UNISPRAYJET

Flame spraying gun with quick-action shut-off valve

P. 5

PLASTIC FLAME SPRAYING SYSTEM F311 FX-S

Flame spraying system for coating with thermoplastic synthetics

P. 6

ACCESSORIES

P. 7

FLAME SPRAYING PRODUCTS

DURALOY & DURALOYPLUS

Powder spray torch for thermal spraying with self-fluxing alloys and melting at the same time.

Most types of metal can be coated with the **DURALOY** and the **DURALOYPLUS** torch, provided that the melting point is higher than the working temperature of the alloy. During the operation, the powder particles pass through the flame and onto the surface of the work piece. The bonding is achieved by fusion with the parent metal.

In comparison to the **DURALOY**, the **DURALOYPLUS** torch offers an even more comfortable handling by the integrated quick-action shut-off valve. When operation is interrupted, the gas mixture, which was adjusted previously, is maintained. Therefore, it is not necessary to spend any time re-adjusting the mixture when setting up the re-operation. This is advantageous for applications with frequent interruptions of work.

HIGHLIGHTS

- Modular design
- Easy fit welding/heating attachments
- Easy to change in the field of application
- Cost efficient by using standard components and standard spare parts
- High level of operational safety
- Easy to use on components which are difficult to access
- Tungsten Carbide inserts available for use with carbide powders (optional)
- Quick action couplings according to EN 561 for the gas hoses
- Safety devices according to EN 730 (optional)
- Accessories are easy to fit and to adjust
- Cost efficient operating materials (Acetylene, Oxygen)
- Quick-action shut-off valve (**DURALOYPLUS**)
- Heating shield (**DURALOYPLUS**)



Tip 550mm with Tungsten Carbide inserts



CONTENTS OF THE **DURALOY** KIT:

- **DURALOY**-torch with powder cartridge and adapter for UTP HA-Bond powder cartridge
- Welding tips size 1-5
- Heating tips size 4 and 5
- Coupling DKG
- Igniter
- Spare gaskets/seals – assortment

DURALOY Kit Art.No. 5000-0006



CONTENTS OF THE **DURALOYPLUS** KIT:

- **DURALOYPLUS** torch with quick-action shut-off valve, powder cartridge and adapter for UTP HA-Bond powder cartridge
- Heating shield
- Welding tips size 1-5
- Heating tips size 4 and 5
- Coupling Pin D1 and coupling DKG for Oxygen and Acetylene
- Igniter

DURALOYPLUS Kit Art.No. 5000-0095

MINISPRAYJET & UNISPRAYJET

Flame spraying gun for thermal spraying with powder using an oxy-fuel flame. Function and safety are guaranteed through a gas mixture system using the injector principle.

The following fuel gases can be used: acetylene, propane (for zinc and plastic powders) and hydrogen in combination with oxygen as well as compressed air used for cooling purposes.

The **MINISPRAYJET** and **UNISPRAYJET** are designed for universal application where wear and corrosive protection have to be considered. They are suitable for both manual application and application with a manipulator (like robots or linear units). Because of the light weight, the standard gun **MINISPRAYJET** can be used for mobile and manual applications. The **UNISPRAYJET** is used for applications with frequent interruptions of work. It comes with a shut-off valve to open and close the gas flow without changing the gas mixture. Additionally, the **UNISPRAYJET** is also available with connections for an external powder feeder, **UNISPRAYJET-SE**.

HIGHLIGHTS

- Integrated powder transport system
- With the integrated gate valve many types of transport gases can be used
- Overhead position through removable and 180° changeable powder connection
- Just one powder connector with adjustable slider for different capacities
- Lever to turn gas on and off without changing the settings (**UNISPRAYJET** and **UNISPRAYJET-SE**)
- Model for connection of one external separate powder feeder (**UNISPRAYJET-SE**)

AREAS OF USE / APPLICATION:

METAL POWDER COATING

for the hot and cold spraying techniques with self-fluxing, metal or ceramic powders.

CORROSION RESISTANT COATINGS

on the basis of low melting metal flame spraying powder (for example zinc and aluminium)

PLASTIC COATINGS

Many different types of thermoplastics and epoxy resins



MINISPRAYJET and **MINISPRAYJET-KIT**

Art.No 5000-0014: Standard Kit

Art.No 5000-0055: LT/A Kit for low melting flame spraying powder



UNISPRAYJET and **UNISPRAYJET Kit**

Art.No 5000-0015: Standard Kit

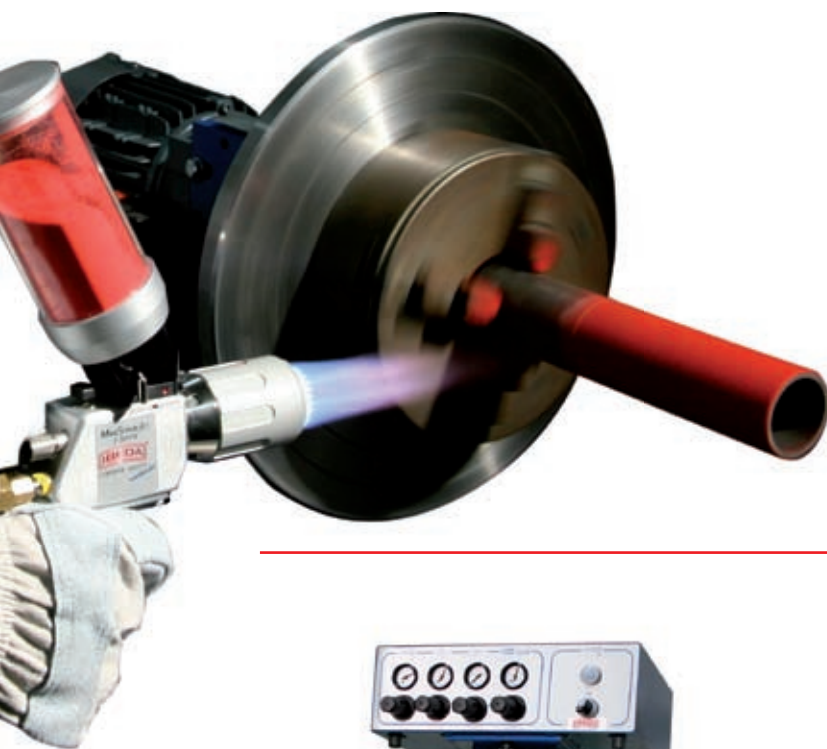
Art.No 5000-0016: **UNISPRAYJET-SE** Kit with external powder feeder



Refillable Powder Cartridge Art.No 1383-0001

THE MOBILE IBEDA PLASTIC FLAME SPRAYING SYSTEM F311 FX-S

The new IBEDA flame spraying system F311 FX allows the coating of metallic and non-metallic work pieces with thermoplastic synthetics. Using this process a plastic powder is heated up with a special flame spraying gun and then smoothly dispersed. During the spraying the powder is in a liquid state and consistently coats the material. This in turn builds up a weatherproof coating with a homogeneous surface structure.



Flame Spraying System F311 FX-S
Art.No. 5000-0010

HIGHLIGHTS

- IBEDA flame spraying gun **MINISPRAYJET** F311 FX-P for propane packed in an aluminium case
- IBEDA mobile powder feeder unit F311 FX for direct working from the original powder container
- Fuel gas, oxygen and compressed air hose as well as powder hose
- The powder flame spraying gun F311 FX-P is also available in a design suitable for using a powder cartridge instead of the mobile powder feeder F311 FX.

The IBEDA plastic flame spraying gun **MINISPRAYJET** F311 FX-P works following the Venturi principal and guarantees maximum safety against flashbacks!

TECHNICAL DATA

IBEDA POWDER FEEDING DEVICE F311 FX MOBILE

Electro-pneumatic control unit with vibrating table and suction device to use with plastic powders.

Dimensions: width 450 mm, depth 650 mm, height 1160 mm

Weight: 30 kg

Inlet current: 230 V / 50 cycles

PLASTIC FLAME SPRAYING GUN **MINISPRAYJET** F311 FX-P

Working media: Propane, oxygen, compressed air

Weight: 990 g

Coating capacity: approx. 8 to 10 kg/h

Pulver: -200/+80 µm

ACCESSORY - NOZZLES

FOR **UNISPRAYJET** · **MINISPRAYJET**

In addition to the standard equipment for the **UNISPRAYJET**- and **MINISPRAYJET**-Kit IBEDA offers a variety of accessories to satisfy your demands.

... for thermoplastic synthetics

... for ceramic synthetics

... for low melting powders

SPRAY EXTENTION

FOR **UNISPRAYJET** · **MINISPRAYJET**

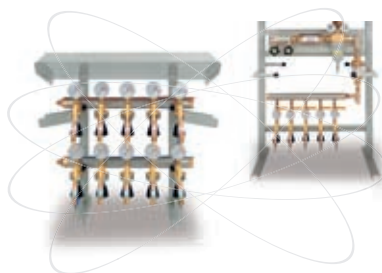


UNISPRAYJET with watercooled IBEDA spray extension



GAS MANIFOLD · EQUIPMENT

IBEDA offers the whole range of components which are necessary for the IBEDA flame spraying products, e.g. cylinder and tapping point regulators, hoses and suitable safety devices. Additionally, we can supply gas manifold systems for oxygen and all technical gases as well as for **acetylene** (standard version and special version for **2,5 bar** outlet pressure) including the tapping points.



POWDER

IBEDA can supply the material for thermal spraying which is suitable for the IBEDA flame spraying products, e.g. self-fluxing alloys, metal powder, plastic powder as well as ceramic powder. IBEDA offers a wide range of burners for subsequent melting of self-fluxing alloys. We will be pleased to send our catalogue for Autogenous Engineering upon request.



IBEDA FLAME SPRAYING ENGINEERING IN USE WORLDWIDE

IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

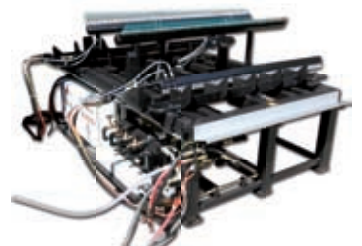
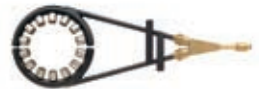
Bahnhofstraße 27 · 53577 Neustadt/Wied

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.de · info@ibeda.de



THE WHOLE WORLD OF
AUTOGENOUS ENGINEERING



BENEFITS WITH SYNERGIES – SECURE THE ADVANTAGES!

Effective synergies and new possibilities abound from the combination of the IBEDA product lines of Autogenous Engineering, Flame Spraying, Gas Manifold Systems and Gas Safety Engineering.

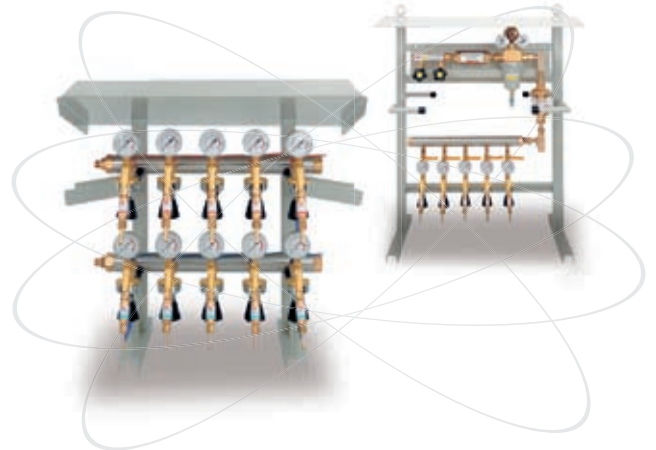
That means: flexible, affordable, certified and safe products and production solutions from a single supplier as well as conservation of affordable natural resources.

We will never compromise on safety. We are committed to the ongoing development of new products as well as continuing to improve our existing products. We can provide well-engineered and reliable safety solutions for every industrial application.

AUTOGENOUS ENGINEERING



GAS MANIFOLD SYSTEMS

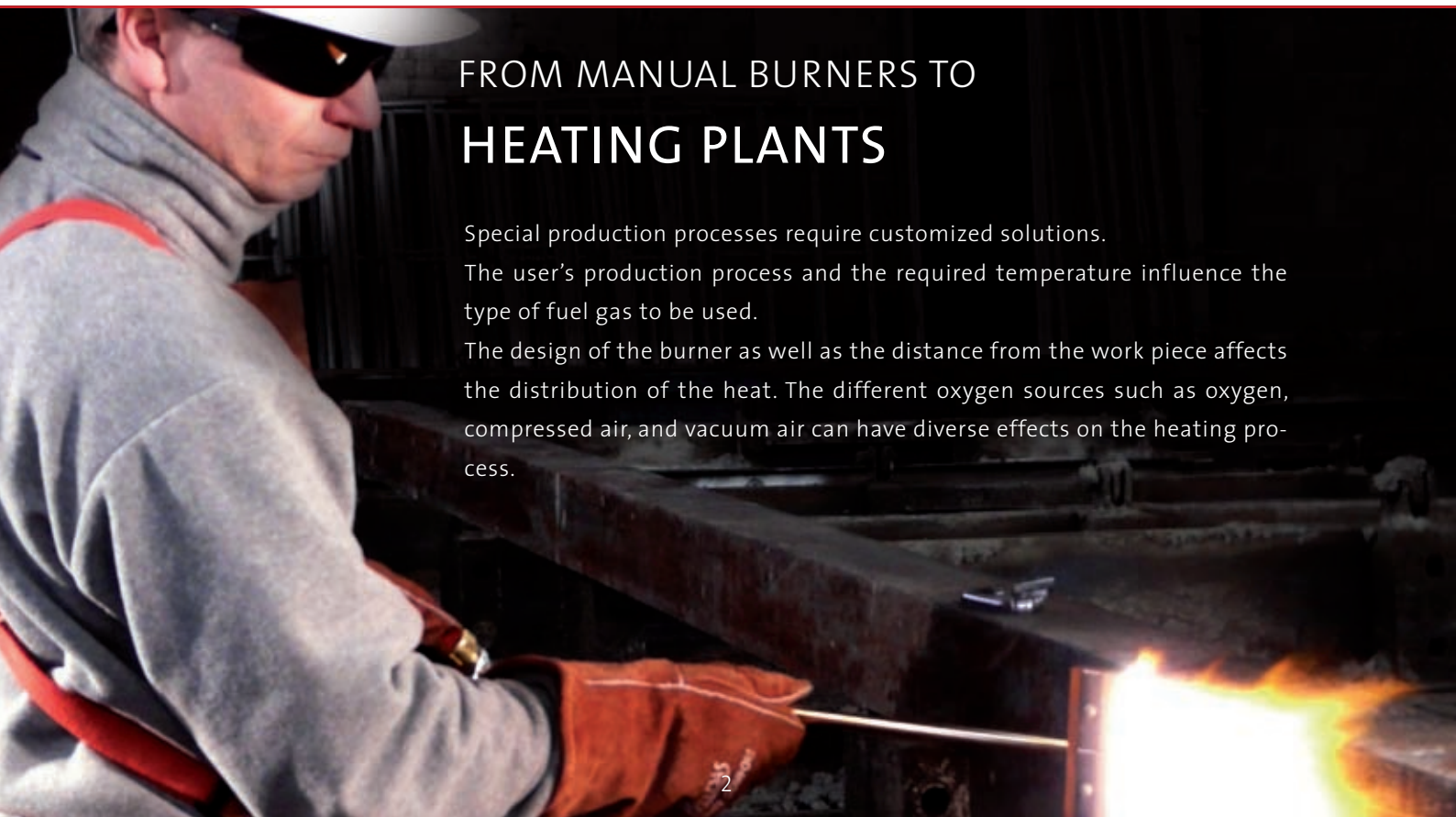


FROM MANUAL BURNERS TO HEATING PLANTS

Special production processes require customized solutions.

The user's production process and the required temperature influence the type of fuel gas to be used.

The design of the burner as well as the distance from the work piece affects the distribution of the heat. The different oxygen sources such as oxygen, compressed air, and vacuum air can have diverse effects on the heating process.



CERTIFIED SAFETY - WORLDWIDE!

GAS SAFETY ENGINEERING



FLAME SPRAYING



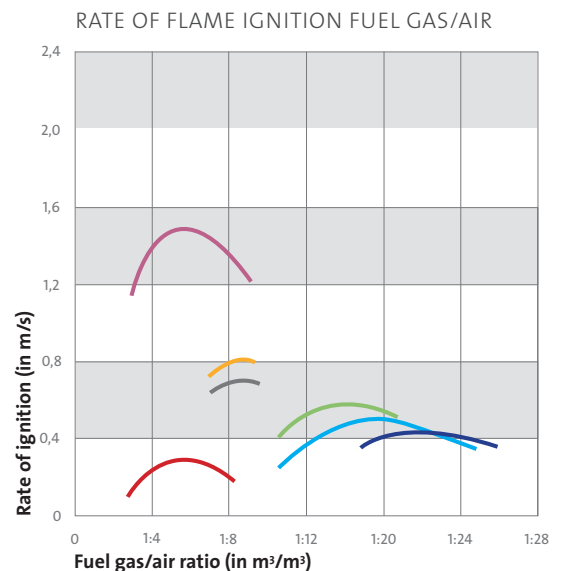
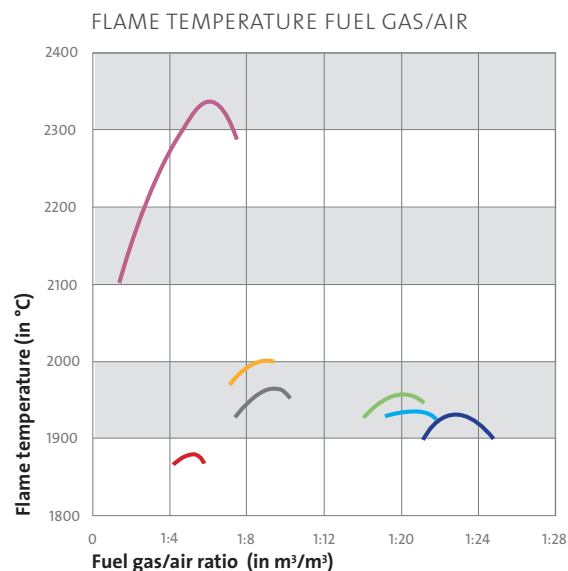
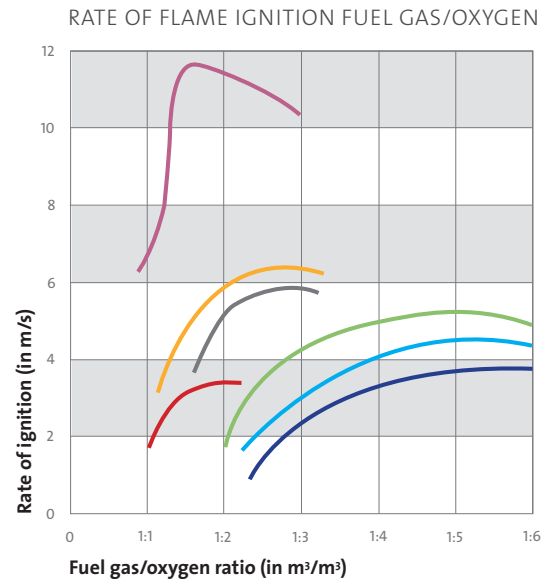
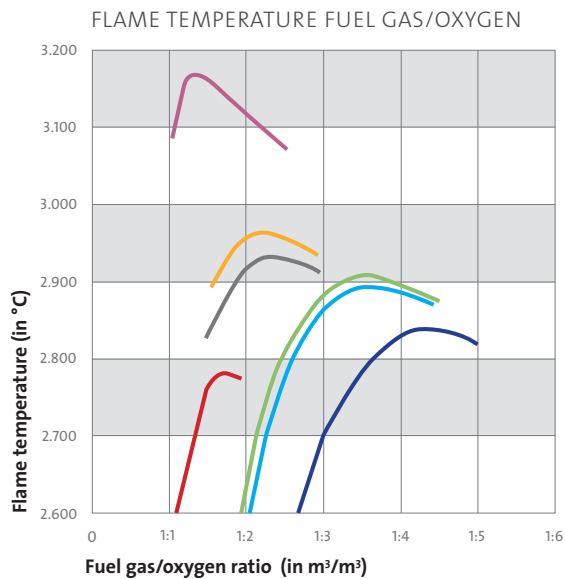
AUTOGENOUS ENGINEERING - FOR ALL INDUSTRIES!

FUEL GAS PROPERTIES	S. 4
SPECIAL BURNERS	S. 5
VACUUM AIR INJECTOR	S.
FUSION BONDING	S. 7
FLAME BRAZING	S. 8
FLAME CLEANING	S. 9
FLAME STRAIGHTENING	S. 9
FLAME HEATING	S. 10, 11
CUSTOM HEATING SOLUTIONS	S. 12, 13
PROJECT DEVELOPMENT OF HEATING PLANTS	S. 14, 15

FUEL GAS PROPERTIES AT A GLANCE

A high temperature fuel gas/oxygen flame produces a quick increase of temperature on the surface of the work piece.

A fuel gas/air flame works with a lower temperature (due to the amount of nitrogen in the air). The mixture is easily adjustable at all flame stages. The heating effect on the surface work piece is lowered and thoroughly heating the work piece can be achieved with both fuel gas/air burners and fuel gas/vacuum air burners.



● Acetylene ● Ethene ● Methylacetylene mixture ● Ethene mixture ● Methane ● Propene ● Propane

CONVERSION TABLE - HEATING VALUE PER m³

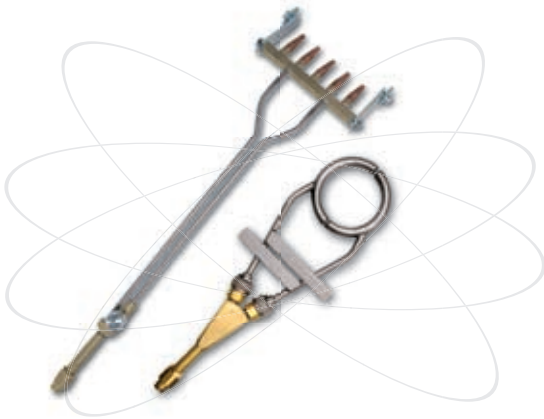
	Btu/m³	MJ/m³
Acetylene	= 53.451	56,493
Propane	= 88.335	93,207
Methane	= 34.000	35,883
Hydrogen	= 10.218	10,783
Propene	= 82.995	87,575
Ethene	= 56.349	59,457

Example:

Model	=	RB-PMY-300
Consumption	=	2,0 m³/h Propane
	=	3,6 m³/h Methane
Propane	=	88.335 x 2.0 = 176.670 BTU
Methane	=	35,883 x 3,6 = 129,179 MJ

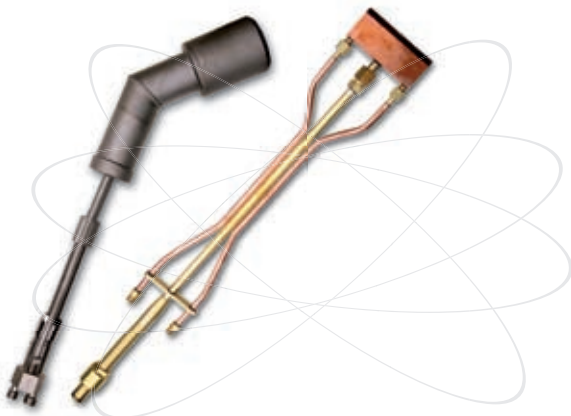
MANUAL AND AUTOMATIC SPECIAL BURNERS - FOR ALL APPLICATIONS

IBEDA offers manual and automatic special burners including all required equipment.



MANUAL CUSTOM BURNERS

Manual custom burners provide customized nozzles and burner capacities which are suitable for the individual application. They are equipped with standard handles or shafts and can be supplied with an additional water cooling system for special requirements.



AUTOMATIC SPECIAL BURNERS

Machine guided custom burners are used in both semi-automatic and fully-automatic processes. These customized burners are also designed to meet the individual heating demands and necessary capacities of each system.

Machine guided custom burners usually operate without direct monitoring. Therefore, special attention is focused on the control elements and the safety features.

AUTOMATIC IGNITION AND FLAME CONTROL

The automatic ignition and flame control units for custom burner are supplied with electrodes for direct ignition or with torches for indirect ignition. The flame is controlled with an electrode or a UV-probe. Optional features include: water cooling, temperature control and additional control equipment.



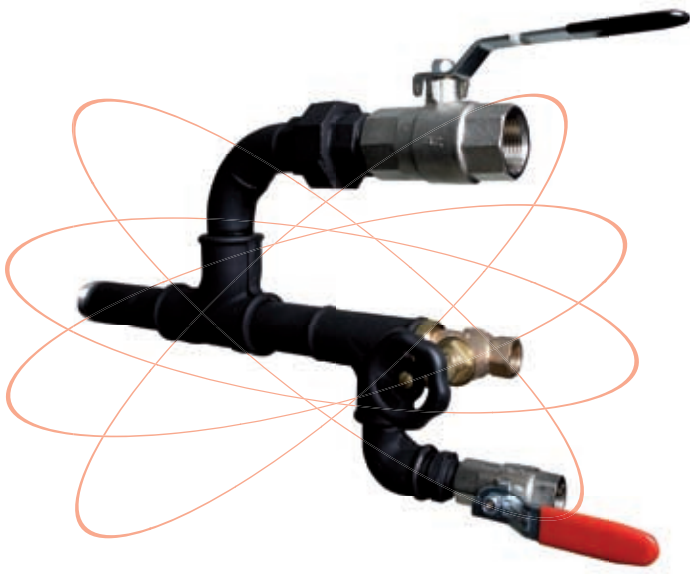
SUSTAINABLE ENERGY SAVINGS WITH THE IBEDA *Eco-Ven*

In the field of heating engineering, there is a wide range of applications for fuel gas/compressed air burners, like heating path for the glass industry, heating units at cutting machines, platen drier at steel plants, heating burners for die forging or heating of welding seams on large diameter pipes. For the combustion of fuel gas, the compressed air requirement is typically 4 to 15 times the requirement of fuel gas (depending on the gas type).

The production of compressed air is energy intensive and expensive (about 0,01 €/m³).

This is the main reason for the development of the new IBEDA Eco-Ven. The Eco-Ven has been designed for both manual and machine guided burner applications. The new injector Eco-Ven provides a very high savings potential. 75% of the required combustion air is taken from the ambient atmosphere and only the remaining 25% of the combustion air is required from compressed air.

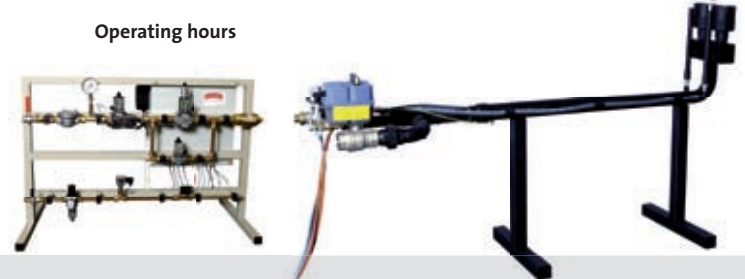
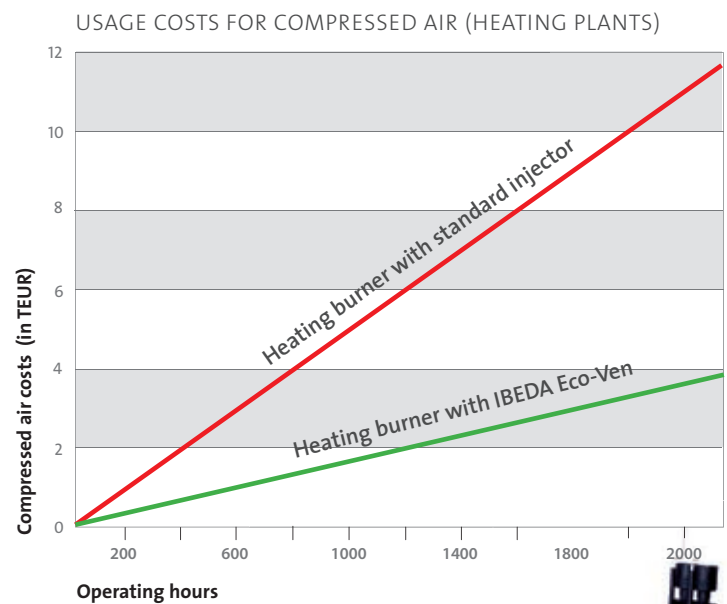
Save 75% of your compressed air expenses. This means cost savings along with conservation of natural resources!



Eco-Ven with manual operation



Eco-Ven with automatic control



IMMEDIATE PAYBACK!

The Eco-Ven can also be easily integrated into existing large plants. Because of the immediate cost-saving you will be able to amortize the investment within a very short period of time.

SPRAYING AND SINTERING FUSION BONDING OF FLAME SPRAY COATINGS



Spraying the surface of the work piece ...



... and thermal finishing

During the spraying operation, powder particles pass into and through the fuel gas/oxygen flame and onto the surface of the work piece.

For heavy duty coatings, a reliable bonding to the parent metal is required. This is achieved by way of a thermal treatment after coating with self-fluxing alloys.

During the sintering process, a diffusion bonding is produced between the parental metal and the coating, which is similar with soldering processes. Normally, manual custom torches are used for smaller work pieces. Automatic machine guided water cooled pre-heating burners and sinter burners are used for larger work pieces.

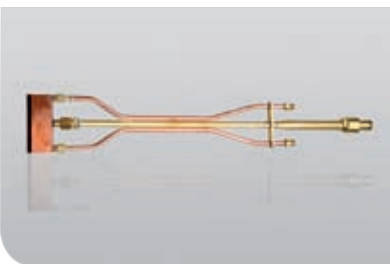
SINTER BURNER FOR USE WITH FUEL GAS/OXYGEN



w = water cooled

Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,0-4,0 bar	Part No.
AH/O-11	22 mm	8,50	22,00	-	-	7,90-9,40	0414-1340
AH/O-12	22 mm	12,00	30,00	-	-	10,80-13,20	0414-1341
AH/O-w-11	22 mm	8,50	22,00	-	-	7,90-9,40	0414-0927
AH/O-w-12	22 mm	12,00	30,00	-	-	10,80-13,20	0414-0928

HEATING BURNER FOR USE WITH FUEL GAS/OXYGEN



w = water cooled

Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,0-4,0 bar	Part No.
RT-AH/O-100-5	22 mm	10,00	15,00	-	-	5,40-11,00	0382-1491
RT-AH/O-150-5	22 mm	14,50	20,80	-	-	7,50-16,00	0382-1492
RT-AH/O-w-100-5	22 mm	10,00	15,00	-	-	5,40-11,00	0382-1493
RT-AH/O-w-150-5	22 mm	14,50	20,80	-	-	7,50-16,00	0382-1494

THE PROCESSES OF HEATING ENGINEERING

FLAME BRAZING

Use of the flame brazing process allows for bonding of various materials. This is achieved by using a melted additive - the solder metal. The parent metal is not melted during this process.



HEATING BURNER FOR USE WITH FUEL GAS/COMPRESSED AIR



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Compressed air p = 2,5 bar	Part No.
PM/DL24/3	17 mm	-	-	0,04	0,07	0,56-0,76	0414-0938
PM/DL25/5	17 mm	-	-	0,12	0,30	2,28-2,40	0414-0939
PM/DLK40/10	17 mm	-	-	0,58	1,56	11,00-12,50	0414-0945
PM/DLK50/16	22 mm	-	-	1,90	3,50	28,00-36,00	0414-0949
A/DL/40/5	17 mm	1,00	-	-	-	5,00	0414-1430
A/DL/40/7	17mm	1,60	-	-	-	8,00	0414-1431
A/DL/40/9	22 mm	2,00	-	-	-	10,00	0414-1432

HEATING BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p = 2,5 bar	Part No.
PM/O-6	17 mm	-	-	0,40	0,90	1,40-1,50	0414-0919
PM/O-8	17 mm	-	-	1,10	2,50	4,00-4,10	0414-0920
PM/O-10	17 mm	-	-	3,00	7,50	11,2-12,00	0414-0921
AH/O-7	17 mm	1,70	4,50	-	-	1,60-1,90	0414-0912
AH/O-8	17 mm	2,50	7,00	-	-	2,50-2,80	0414-0913
AH/O-9	17 mm	4,00	10,00	-	-	3,60-4,40	0414-0914

RIBBON BURNER FOR USE WITH FUEL GAS/COMPRESSED AIR



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Compressed air p = 2,5 bar	Part No.
LAB-PM/DL-200	17 mm	-	-	0,40	0,90	5,00-6,80	0414-0966
LAB-PM/DL-400	17 mm	-	-	1,10	2,50	9,50-13,10	0414-0967
LAB-AH/DL-200	17 mm	0,20	0,50	-	-	0,90-1,10	0414-1426
LAB-AH/DL-400	17 mm	0,30	0,78	-	-	1,40-1,70	0414-1427

RIBBON BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p = 2,5 bar	Part No.
LAB-PM/O-200	17 mm	-	-	1,30	1,70	2,75-4,95	0414-1428
LAB-PM/O-400	17 mm	-	-	2,50	3,30	5,25-9,45	0414-1429
LAB-AH/O-200	17 mm	0,95	0,85	-	-	0,30-1,10	0414-0961
LAB-AH/O-400	17 mm	1,85	1,70	-	-	0,60-2,00	0414-0962

FLAME CLEANING

Flame cleaning is used during building restoration and repair, especially on concrete floors and walls – natural surfaces, like granite, develop a silk-like surface.

The steel industry uses flame cleaning for rust removal on large parts. It is an extraordinary alternative to other cleaning methods.



FLAME CLEANING BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p = 2,5 bar	Part No.
RT-PM50	17 mm	-	-	0,90	2,20	3,40-3,50	0414-0956
RT-PM100	17 mm	-	-	1,80	4,80	6,80-7,70	0414-0957
RT-PM150	22 mm	-	-	3,05	7,00	11,20-11,40	0414-0958
RT-PM200	22 mm	-	-	4,25	10,20	15,90-16,30	0414-0959
RT-PM250	22 mm	-	-	4,45	11,00	16,70-17,60	0414-0960
RT-AH50	17 mm	1,10	2,80	-	-	1,00-1,20	0414-0951
RT-AH100	17 mm	2,30	6,10	-	-	2,20-2,50	0414-0952
RT-AH150	17 mm	3,50	9,20	-	-	3,30-3,90	0414-0953
RT-AH200	22 mm	4,60	11,90	-	-	4,30-5,10	0414-0954
RT-AH250	22 mm	5,70	15,00	-	-	5,40-6,30	0414-0955

FLAME STRAIGHTENING

The flame straightening process can be used to eliminate defaults and achieve the required shape of parts through targeted heating.



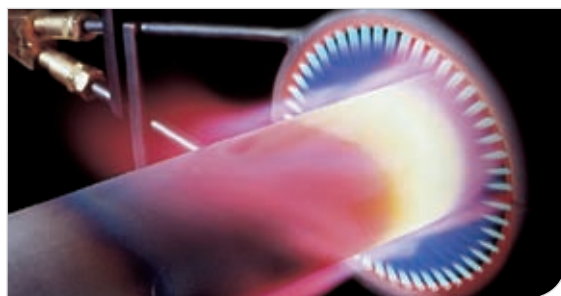
FLAME STRAIGHTENING BURNER FOR USE WITH FUEL GAS / OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,5 bar	Part No.
A/O-3/2-Gr.3	17 mm	0,90	-	-	-	1,29	0417-1573
A/O-3/2-Gr.4	17 mm	1,40	-	-	-	2,05	0417-1540
A/O-5/3-Gr.3	17 mm	1,50	-	-	-	2,15	0417-1574
A/O-5/3-Gr.4	17 mm	2,40	-	-	-	3,41	0417-1766

FLAME HEATING

Flame heating is a process for localized heating prior to forming of pre-manufactured parts, and for pre and post-heating during welding and cutting.

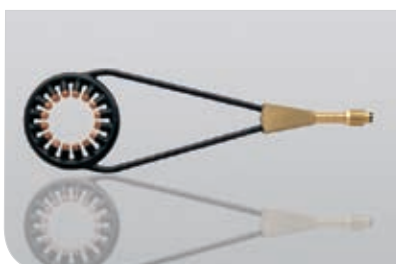


RING BURNER FOR USE WITH FUEL GAS/COMPRESSED AIR



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Compressed air p=2,0-4,0 bar	Part No.
RB-PM/DL-50	17 mm	-	-	0,60	1,12	8,96 - 11,40	2201-0050
RB-PM/DL-100	17 mm	-	-	1,00	1,87	14,96 - 19,00	2201-0100
RB-PM/DL-200	17 mm	-	-	1,50	2,80	22,40 - 28,50	2201-0200
RB-PM/DL-300	22 mm	-	-	2,00	3,75	30,00 - 38,00	2201-0300
RB-AH/DL-50	17 mm	0,30	0,80	-	-	1,44 - 1,65	2271-0050
RB-AH/DL-100	17 mm	0,40	1,00	-	-	1,80 - 2,20	2271-0100
RB-AH/DL-200	17 mm	0,50	1,30	-	-	2,35 - 2,75	2271-0200
RB-AH/DL-300	22 mm	0,60	1,50	-	-	2,70 - 3,30	2271-0300

RING BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,5 bar	Part No.
RB-PM/O-50	17 mm	-	-	0,50	0,90	1,44 - 1,88	2211-0050
RB-PM/O-100	17 mm	-	-	0,80	1,40	2,24 - 3,00	2211-0100
RB-PM/O-200	17 mm	-	-	1,40	2,50	4,00 - 5,25	2211-0200
RB-PM/O-300	17 mm	-	-	2,00	3,60	5,76 - 7,50	2211-0300
RB-AH/O-50	17 mm	0,80	2,20	-	-	0,79 - 0,88	2251-0050
RB-AH/O-100	17 mm	1,30	3,60	-	-	1,43 - 1,30	2251-0100
RB-AH/O-200	17 mm	2,20	6,00	-	-	2,16 - 2,42	2251-0200
RB-AH/O-300	17 mm	3,00	8,30	-	-	2,99 - 3,30	2251-0300

SWIVEL RING BURNER FOR USE WITH FUEL GAS/COMPRESSED AIR



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Compressed air p=2,5 bar	Part No.
RSB-PM/DL-50	17 mm	-	-	0,60	1,12	8,96-11,4	2401-0050
RSB-PM/DL-100	17 mm	-	-	1,00	1,87	14,96-19,00	2401-0100
RSB-PM/DL-200	17 mm	-	-	1,50	2,80	22,40-28,50	2401-0200
RSB-PM/DL-300	22 mm	-	-	2,00	3,75	30,00-38,00	2401-0300
RSB-AH/DL-50	17 mm	0,30	-	-	-	1,44-1,65	2471-0050
RSB-AH/DL-100	17 mm	0,40	-	-	-	1,80-2,20	2471-0100
RSB-AH/DL-200	17 mm	0,50	-	-	-	2,35-2,75	2471-0200
RSB-AH/DL-300	22 mm	0,60	-	-	-	2,70-3,30	2471-0300

SWIVEL RING BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m ³ /h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,5 bar	Part No.
RSB-PM/O-50	17 mm	-	-	0,50	0,90	1,44-1,88	2411-0050
RSB-PM/O-100	17 mm	-	-	0,80	1,40	2,24-3,00	2411-0100
RSB-PM/O-200	17 mm	-	-	1,40	2,50	4,00-5,25	2411-0200
RSB-PM/O-300	17 mm	-	-	2,00	3,60	5,76-7,50	2411-0300
RSB-AH/O-50	17 mm	0,80	2,20	-	-	0,79-0,88	2451-0050
RSB-AH/O-100	17 mm	1,30	3,60	-	-	1,43-1,30	2451-0100
RSB-AH/O-200	17 mm	2,20	6,00	-	-	2,16-2,42	2451-0200
RSB-AH/O-300	17 mm	3,00	8,30	-	-	2,99-3,30	2451-0300

HANDLES AND SHAFTS



ECO-VEN



Connections						
Type	Injector	Fuel Gas	Compressed air	Vacuum air consumption	Compressed air consumption	Part No.
Shaft S-17	17 mm	G3/8LH	G1/4RH	-	30 m³/h	0413-0310
Handle G-17	17 mm	G3/8LH	G1/4RH	-	30 m³/h	0408-0167
Shaft S-22	22 mm	G1/2LH	G3/8RH	-	50 m³/h	0413-0311
Handle G-22	22 mm	G1/2LH	G3/8RH	-	50 m³/h	0403-0201
Shaft S-H20	26 mm	G1/2LH	G3/8RH	-	120 m³/h	0413-0337
Handle G-HA20	26 mm	G3/4LH	G1/2RH	-	120 m³/h	0413-0282
Injector G-Ven-15	G 3/4-M	G1/2-F	G3/8-F	-	180 m³/h	0413-0234
Injector G-Ven-20	G 3/4-M	G 3/4-F	G1/2-F	-	180 m³/h	0413-0235
Injector G-Ven-25	G 1-M	G 1-F	G 3/4-F	-	600 m³/h	0413-0230
Vacuum air injector Eco-Ven-10	G 1/2-M	G 3/8-F	G1/4-F	60 m³/h	20 m³/h	0413-0342
Vacuum air injector Eco-Ven-15	G 1-M	G 1/2-F	G1/4-F	150 m³/h	50 m³/h	0413-0339
Vacuum air injector Eco-Ven-20	G 1 1/4-M	G 3/4-F	G3/8-F	300 m³/h	100 m³/h	0413-0341
Vacuum air injector Eco-Ven-25	G 1 1/2-M	G 1-F	G 1/2-F	450 m³/h	150 m³/h	0413-0333

HEATING BURNER FOR USE WITH FUEL GAS/OXYGEN



Consumption m³/h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,0-4,0 bar	Part No.
PM/O-10	22 mm	-	-	3,00	7,50	11,25 - 12,00	0414-0921
PM/O-12	22 mm	-	-	4,30	9,00	14,40 - 16,13	0414-0922
PM/O-14	22 mm	-	-	5,20	12,00	19,20 - 19,50	0414-0923
PM/O-16	22 mm	-	-	6,50	15,00	24,00 - 24,40	0414-0924
AH/O-10	22 mm	6,00	12,50	-	-	4,50 - 6,60	0414-1339
AH/O-11	22 mm	8,50	22,00	-	-	7,90 - 9,35	0414-1340
AH/O-12	22 mm	12,00	30,00	-	-	10,80 - 13,20	0414-1341

HEATING BURNER FOR USE WITH FUEL GAS/OXYGEN



w = water cooled

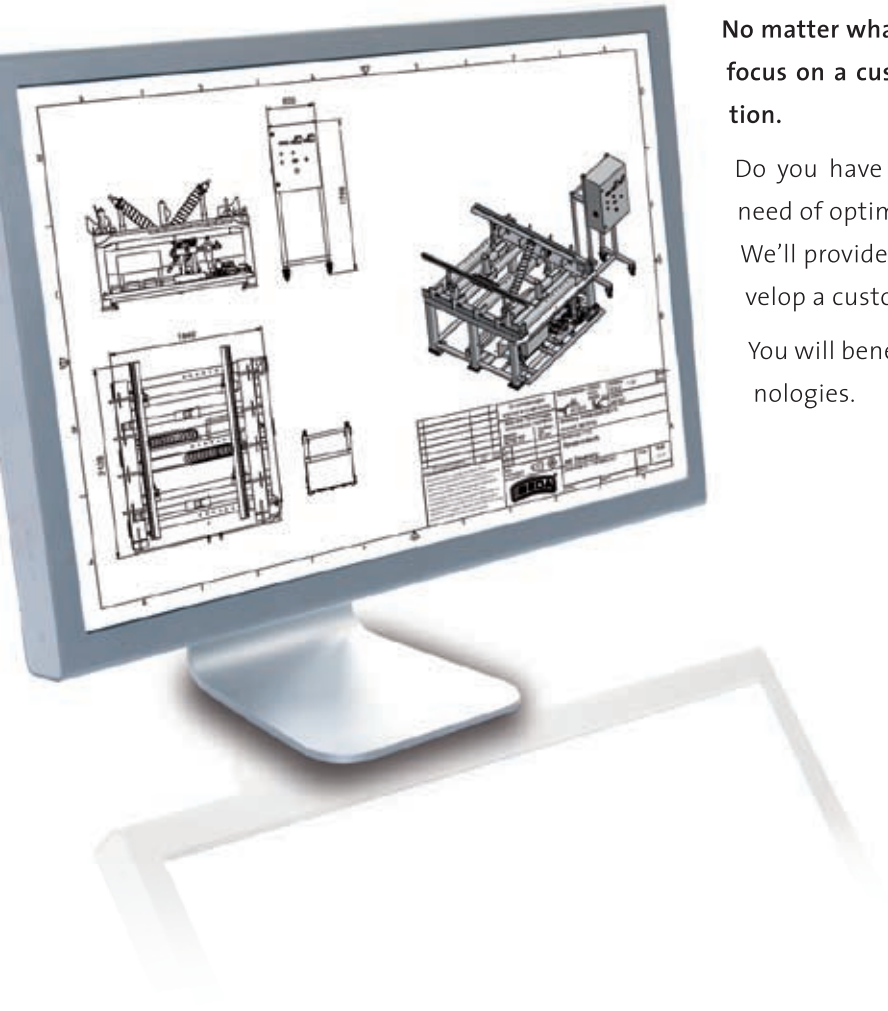
Consumption m³/h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p=2,0-4,0 bar	Part No.
PM/O-w-12	22 mm	-	-	4,30	9,00	14,40 - 16,10	0414-0929
PM/O-w-14	22 mm	-	-	5,20	12,00	19,20 - 19,50	0414-0930
PM/O-w-16	22 mm	-	-	6,50	15,00	24,00 - 24,40	0414-0931
AH/O-w-10	22 mm	6,00	12,50	-	-	4,50 - 6,60	0414-0926
AH/O-w-11	22 mm	8,50	22,00	-	-	7,90 - 9,35	0414-0927
AH/O-w-12	22 mm	12,00	30,00	-	-	10,80 - 13,20	0414-0928

HEATING BURNER FOR USE WITH FUEL GAS/COMPRESSED AIR-VACUUM AIR



Consumption m³/h							
Type	Injector	Acetylene	Hydrogen	Propane	Natural Gas	Oxygen p = 2,5 bar	Part No.
WB-PM/DL50/16	Eco-Ven-10	-	-	1,90	3,50	5,20 - 8,50	0414-1437
WB-PM/DL70/20	Eco-Ven-10	-	-	4,00	7,50	11,25 - 18,75	0414-1438
WB-PM/DL100/30	Eco-Ven-15	-	-	10,50	19,00	28,00 - 47,00	0414-1439
WB-PM/SL50/16	SL 3/4	-	-	1,30	2,50	-	0414-0976
WB-PM/SL70/20	SL 1	-	-	2,80	5,30	-	0414-0977
WB-PM/SL100/30	SL 1 1/2	-	-	7,50	13,50	-	0414-0978

CUSTOM HEATING SOLUTIONS FOR ALL REQUIREMENTS - FOR ALL INDUSTRIES

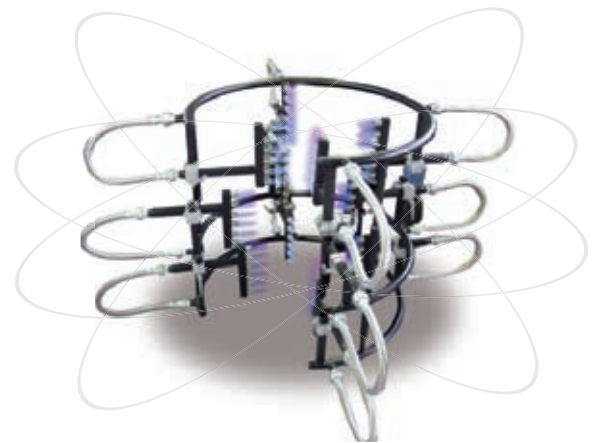


No matter what heating technology requirements you have – we'll focus on a customized solution so you can focus on your production.

Do you have new heating requirements or a current process in need of optimization? Let us assist you!

We'll provide you with detailed advice, analyze the issues, and develop a customized proposal.

You will benefit from our extensive experience with heating technologies.



IBEDA SPECIAL BURNER EXAMPLES

Propane - compressed air burner for drying of longitudinal welds on large diameter pipes with automatic ignition control and flame control.

Gas type: Propane/compressed air

Capacity: 75 kW

Fuel gas pressure: 0,5 bar

Compressed air pressure: 5 bar

Heating burner for copper cooler plates.

Gas type: Acetylene/Oxygen with water cooling

Capacity: 900 kW

Fuel gas pressure: 1,2 bar

Oxygen pressure: 2,5 bar

Water: 3,0 bar

Heating burner for welding and fused quartz forming.

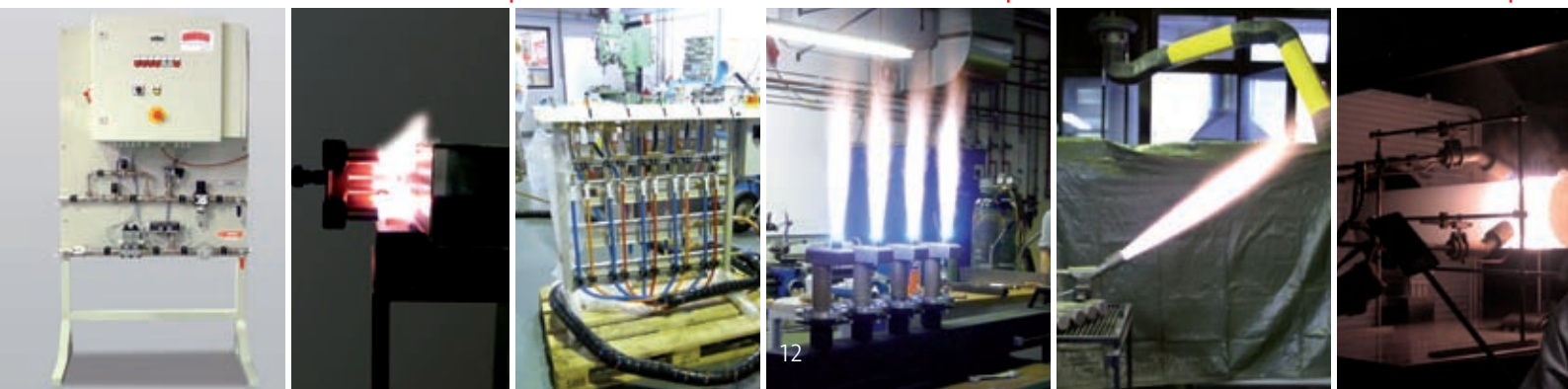
Gas type: Hydrogen/Oxygen

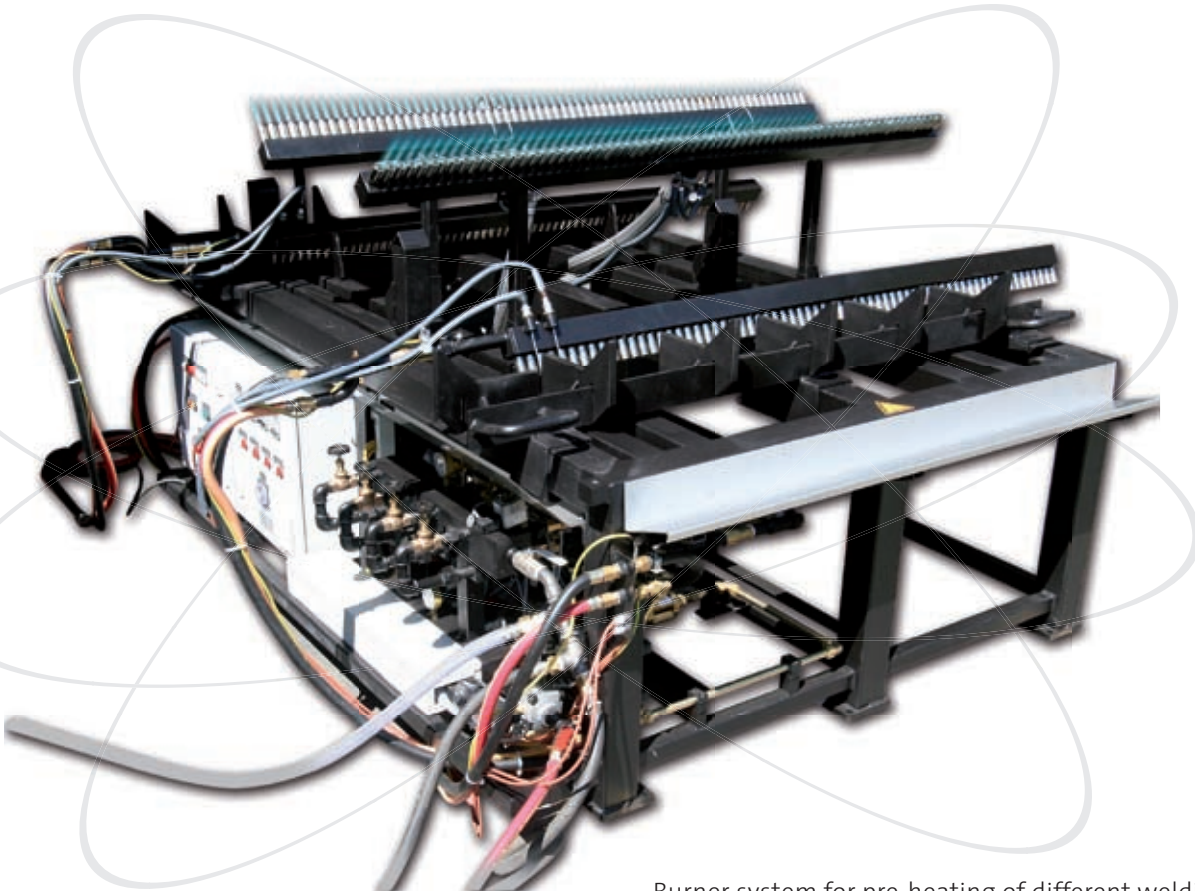
Capacity: 300 kW

Fuel gas pressure: 1,5 bar

Oxygen pressure: 4,0 bar

Water: 3,0 bar





Burner system for pre-heating of different welding parts.
The component support plate and the heating burner are flexibly adjustable to the sizes of the different construction parts.
The components are heated with Propane-Compressed air at 250°C.

Heating burner for drying and pre-heating of large pipes at welding speed.

Gas type: Acetylene/compressed air with water cooling

Capacity: 200 kW

Fuel gas pressure: 1,2 bar

Compressed air pressure: 2,5 bar

Water: 3,0 bar

Trial burner for heating of rails

Gas type: Acetylene/compressed air with water cooling

Capacity: 250 kW

Fuel gas pressure: 1,2 bar

Compressed air pressure: 2,5 bar

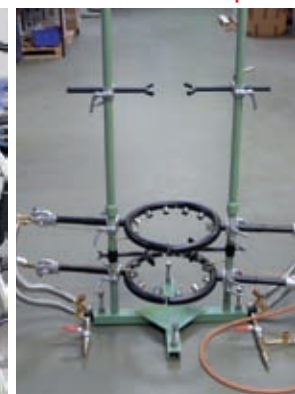
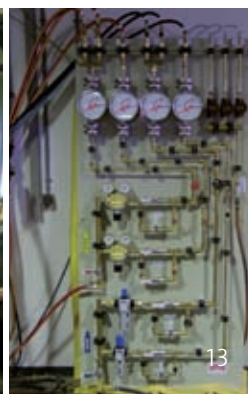
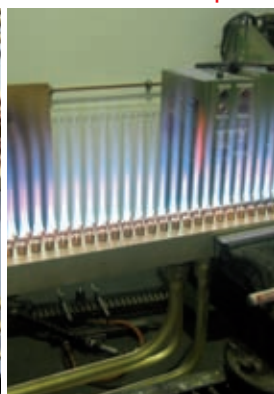
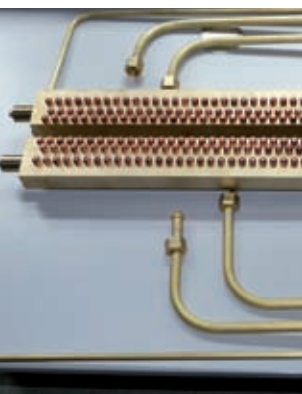
Water: 3,0 bar

Soldering burner and heating burner for different applications.

Gas type: Propane/natural gas with atmospheric air

Capacity: according to design

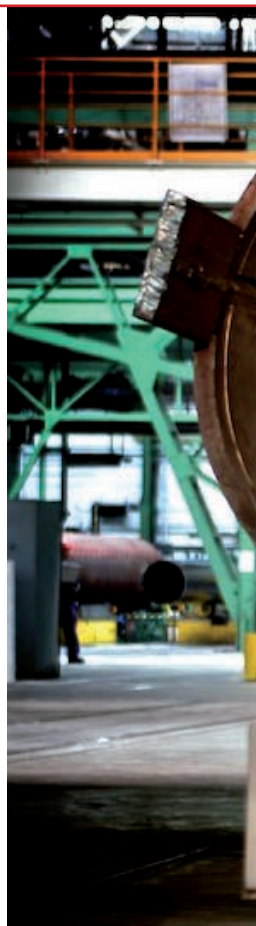
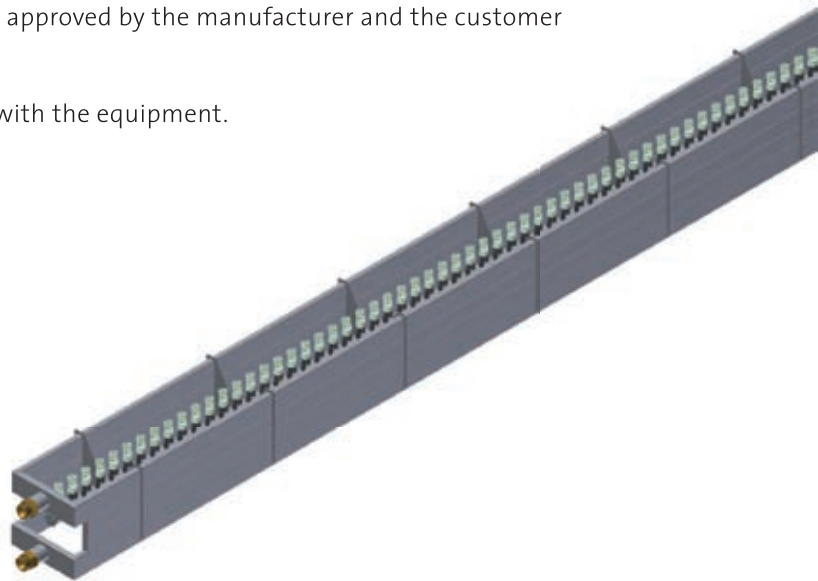
Fuel gas pressure: 0,5 to 1,5 bar

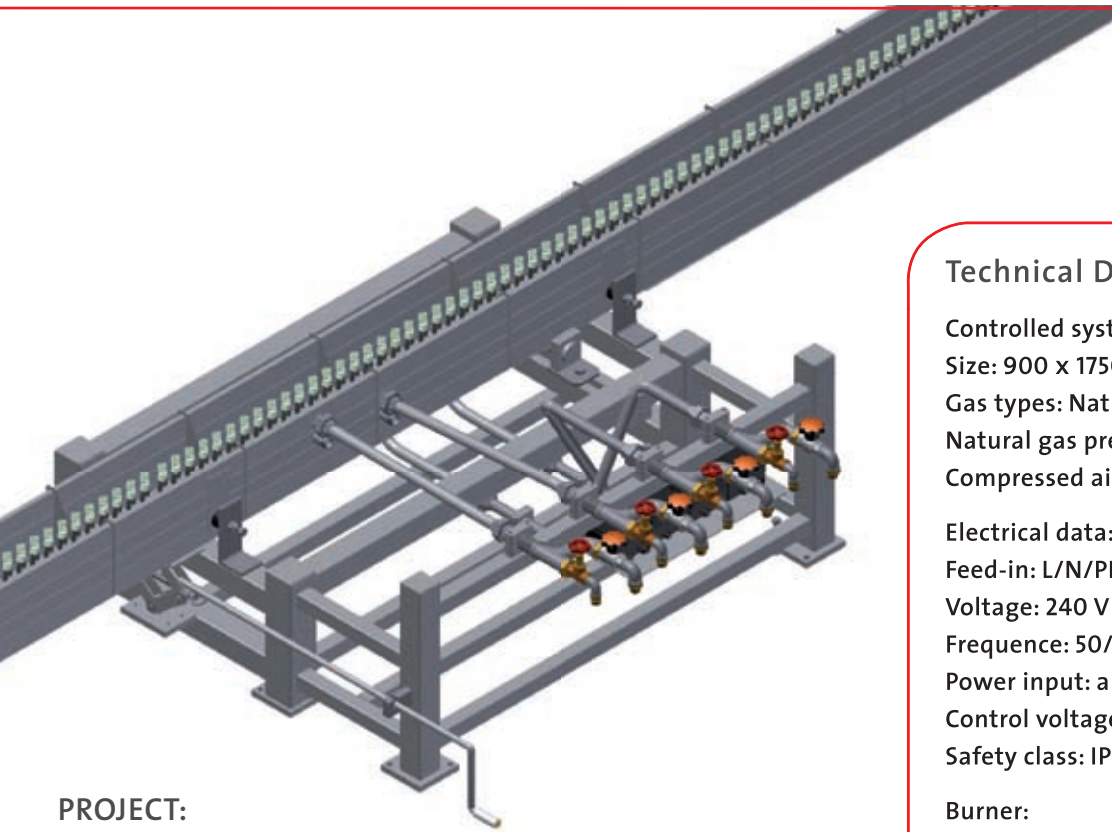


DESIGN – MANUFACTURING – INSTALLATION – SUPPORT EVERYTHING FROM ONE SOURCE

IBEDA heating systems are designed in complete cooperation with the customer.

- From the inquiry, an offer is submitted based on the customer's specifications and requirements.
- Upon receipt of the customer's order, the special burner is designed/constructed and then approved by the customer.
- The operational manual is created.
- The burner system is completely assembled and approved by the manufacturer and the customer before delivery.
- Complete technical documentation is provided with the equipment.
- IBEDA offers support even after installation.





PROJECT:

Seam heating on longitudinally welded large pipes

The IBEDA pre-heating plant is designed for the heating of pipes with diameters of 406 mm - 2540 mm and lengths of 3500 mm - 12200 mm at a wall-thickness of 6 mm - 76mm.

The heat is supplied by four line burners which are arranged in a series on a support shaft.

Gas types: Natural gas and compressed air

Technical Data:

Controlled system:

Size: 900 x 1750 x 375 (WxHxD)

Gas types: Natural gas / Compressed air

Natural gas pressure: min 200 mbar - max 400 mbar

Compressed air pressure: min 5 bar - max 10 bar

Electrical data:

Feed-in: L/N/PE

Voltage: 240 V

Frequency: 50/60 Hz

Power input: approx 800 VA

Control voltage: 230 VAC

Safety class: IP 54

Burner:

Type: Line burner - free-burning application

L = 14000 (4 x 3500) with exchangeable nozzles arranged in 2 lines (inclined by 10° to both sides)

Methane consumption: 4x approx 9,5 Nm³/h

Compressed air consumption: 4x approx 95 Nm³/h





IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

Bahnhofstraße 27 · 53577 Neustadt/Wied

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.de · info@ibeda.de





**THE WHOLE WORLD OF
 GAS NON-RETURN VALVES
 AND SAFETY DEVICES IN
 ACCORDANCE WITH EN 730-2**



SECURE THE ADVANTAGES!

Effective synergies and new possibilities abound when you combine the IBEDA product lines of Gas Safety Engineering, Flame Spraying, Gas Manifold Systems and Autogenous Engineering.

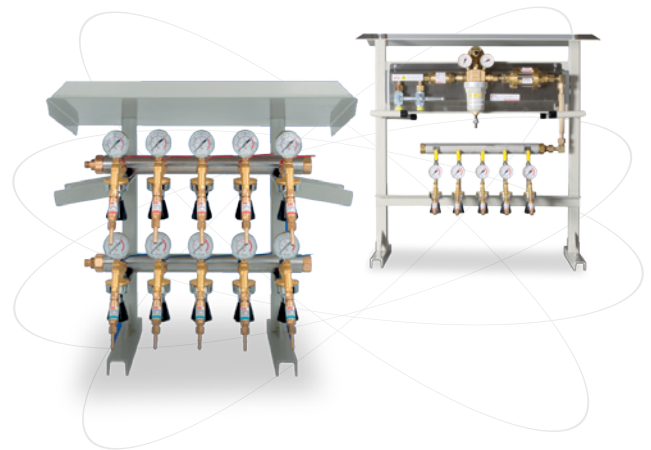
That means: flexible, affordable, certified and safe products and production solutions from a single supplier, as well as conservation of valuable natural resources.

We will never compromise on safety. We are committed to the ongoing development of new products as well as continuing to improve our existing products. We are able to provide well-engineered and reliable safety solutions for every industrial application, all with certification!

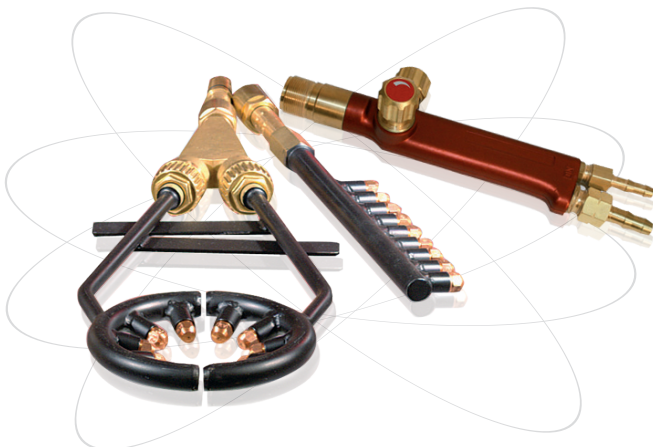
GAS SAFETY ENGINEERING



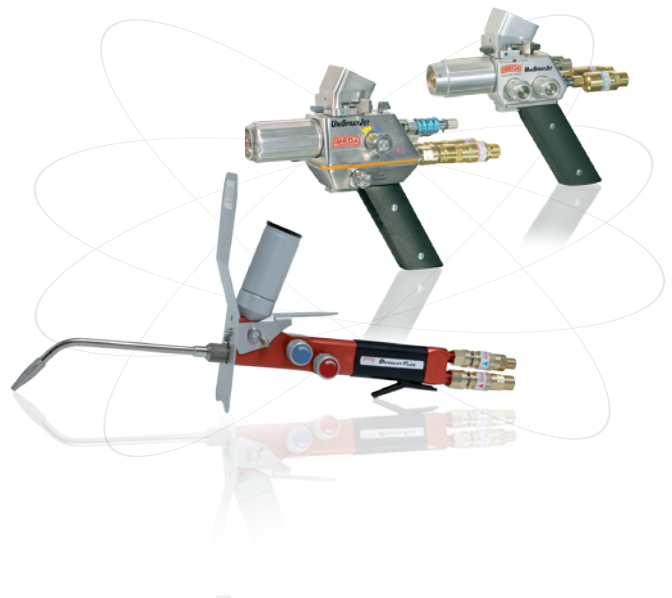
GAS MANIFOLD SYSTEMS



AUTOGENOUS ENGINEERING



FLAME SPRAYING



GAS NON-RETURN VALVES

IN ACCORDANCE WITH EN 730-2

The safety devices are used to safeguard plants, pipeline systems and tapping points. The check valves type GRV prevent gas return. **The flashback-resistant gas non-return valves type GRS prevent gas return as well as flashback if compressed air is used as an oxidant.**

THE GAS NON-RETURN VALVES ARE AVAILABLE IN THREE SIZES, DN 25, DN 32 AND DN 50, WITH THREAD FROM 1/2" TO 2" AS WELL AS SPECIAL FLANGE CONNECTION UP TO NOMINAL DIAMETER OF DN 50.

CERTIFIED SAFETY YOU CAN RELY ON!

The safety devices satisfy the requirements specified in all relevant standards and directives. They are tested by BAM in Berlin and are registered under the DVGW certification mark:

NG-4390CQ0062 (gas non-return valves/check valves, - Model GRV) and
DG-4390CQ0061 (gas non-return valves (flashback-resistant), Model GRS)



TECHNICAL DATA

Types	Gas non-return valves / Check valves							
	GRV 25 1/2"	GRV 25 3/4"	GRV 25 1"	GRV 32 1"	GRV 32 1 1/4"	GRV 50 1 1/2"	GRV 50 2"	GRV 50 FLANGE DN 50
Safety elements								
DF (dust filter)	x	x	x	x	x	x	x	x
NV (gas non-return valve)	x	x	x	x	x	x	x	x
FD (flame deflector)	-	-	-	-	-	-	-	-

Maximum working pressure (bar)		1 bar = 0,1 MPa						
Town gas, grid gas (C)	25	25	25	25	25	20	20	20
Hydrogen (H)	25	25	25	25	25	20	20	20
Natural gas (M)	25	25	25	25	25	20	20	20
Propan (P)	25	25	25	25	25	20	20	20
Cleaned Biogas	25	25	25	25	25	20	20	20
Oxygen (O)	25	25	25	25	25	20	20	20
Nitrogen (N)	25	25	25	25	25	20	20	20
Inert gases (N)	25	25	25	25	25	20	20	20
Compressed air (D)	25	25	25	25	25	20	20	20

Inlet pressure (mbar)	Flow rate (Nm/h³)*							
20	20	22	24	30	35	95	100	100
40	33	36	40	50	55	150	155	155
60	40	44	48	65	70	195	200	200
80	48	50	52	75	80	210	220	220
100	55	58	65	80	85	240	250	250
500	131	145	155	200	210	500	510	510

Gas non-return valves (flashback resistant)							
GRS 25 1/2"	GRS 25 3/4"	GRS 25 1"	GRS 32 1"	GRS 32 1 1/4"	GRS 50 1 1/2"	GRS 50 2"	GRV 50 FLANGE DN 50
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x
x	x	x	x	x	x	x	x

1,5	1,5	1,5	1,5	1,5	1	1	1
1,5	1,5	1,5	1,5	1,5	1	1	1
5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5
5	5	5	5	5	5	5	5
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

19	21	23	29	33	90	95	95
31	34	38	48	52	143	147	147
38	42	46	62	67	185	190	190
46	48	49	71	76	200	209	209
52	55	62	76	81	228	238	238
124	138	147	190	200	475	485	485

*All flow rates are measured with air

GAS NON-RETURN VALVES DN 25

CHECK VALVES

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRV25	G ½"	50	89	0,7	CW604	1.4305	CR/NBR
GRV25	G ¾"	50	89	0,6	CW604	1.4305	CR/NBR
GRV25	G 1"	50	89	0,7	CW604	1.4305	CR/NBR
GRV25	NPT ½"	50	89	0,7	CW604	1.4305	CR/NBR
GRV25	NPT ¾"	50	89	0,6	CW604	1.4305	CR/NBR
GRV25	NPT 1"	50	89	0,7	CW604	1.4305	CR/NBR

GAS NON-RETURN VALVES DN 32

CHECK VALVES

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRV32	G 1"	60	95	1,0	CW604	1.4305	CR/NBR
GRV32	G 1¼"	60	100	1,1	CW604	1.4306	CR/NBR
GRV32	NPT 1"	60	95	1,0	CW604	1.4305	CR/NBR
GRV32	NPT 1¼"	60	100	1,1	CW604	1.4305	CR/NBR

GAS NON-RETURN VALVES DN 50

CHECK VALVES

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRV50	G 1½"	94	124	3,6	CW604	1.4305	CR/NBR
GRV50	G 2"	94	145	4,4	CW604	1.4305	CR/NBR
GRV50	NPT 1½"	94	124	3,7	CW604	1.4305	CR/NBR
GRV50	NPT 2"	94	145	4,5	CW604	1.4305	CR/NBR
GRV50	FLANGE DN 50	94	303	14,3	CW604	1.4305	CR/NBR

GAS NON-RETURN VALVES DN 25

Flashback-resistant if compressed air is used as oxidant

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRS25	G ½"	55	103	1,2	CW604	1.4305	CR/NBR
GRS25	G ¾"	55	121	1,2	CW604	1.4305	CR/NBR
GRS25	G 1"	55	108	1,1	CW604	1.4305	CR/NBR
GRS25	NPT ½"	55	103	1,2	CW604	1.4305	CR/NBR
GRS25	NPT ¾"	55	121	1,2	CW604	1.4305	CR/NBR
GRS25	NPT 1"	55	108	1,1	CW604	1.4305	CR/NBR

GAS NON-RETURN VALVES DN 32

Flashback-resistant if compressed air is used as oxidant

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRS32	G 1"	65	150	2,1	CW604	1.4305	CR/NBR
GRS32	G 1¼"	65	157	2,2	CW604	1.4306	CR/NBR
GRS32	NPT 1"	65	150	2,1	CW604	1.4305	CR/NBR
GRS32	NPT 1¼"	65	157	2,2	CW604	1.4305	CR/NBR

GAS NON-RETURN VALVES DN 50

Flashback-resistant if compressed air is used as oxidant

Description	Connection thread	Dimensions		Weight (kg)	Housing material	Sealing material	
		Ø (mm)	L (mm)				
GRS50	G 1½"	94	175	5,9	CW604	1.4305	CR/NBR
GRS50	G 2"	94	176	6	CW604	1.4305	CR/NBR
GRS50	NPT 1½"	94	175	6	CW604	1.4305	CR/NBR
GRS50	NPT 2"	94	176	6,1	CW604	1.4305	CR/NBR
GRS50	FLANGE DN50	94	334	15,9	CW604	1.4305	CR/NBR

FOR THERMAL PROCESS PLANTS AND PIPELINE SYSTEMS



GAS NON-RETURN VALVES (CHECK VALVES) **GRV 25, GRV 32 AND GRV 50**

Gas non-return valves for town gas, grid gas, natural and liquid gas, Methane (cleaned biogas), Hydrogen, Oxygen, Nitrogen, inert gases and compressed air



GAS NON-RETURN VALVES (FLASHBACK-RESISTANT) **GRS 25, GRS 32 AND GRS 50**

Gas non-return valves (flashback resistant) for town gas, grid gas, natural and liquid gas, Methane (cleaned biogas)

HIGHLIGHTS

- Very low cracking pressures of 4–6 mbar
- High flow rates, minimal pressure loss
- Position-independent installation
- Compact design
- Prevents dangerous gas mixtures on the inlet side
- Stainless steel dust filter with large filter surface ensures a long service life
- DVGW-certified

APPLICATION

Application areas of our products are thermal process plants according to EN 746-2 as well as heating processes for welding, cutting and related processes that are operated with mixtures of fuel gas and air.



e.g. in a steel mill



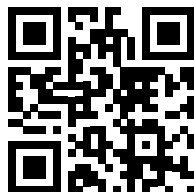
IBEDA GAS SAFETY ENGINEERING WORLDWIDE IN USE

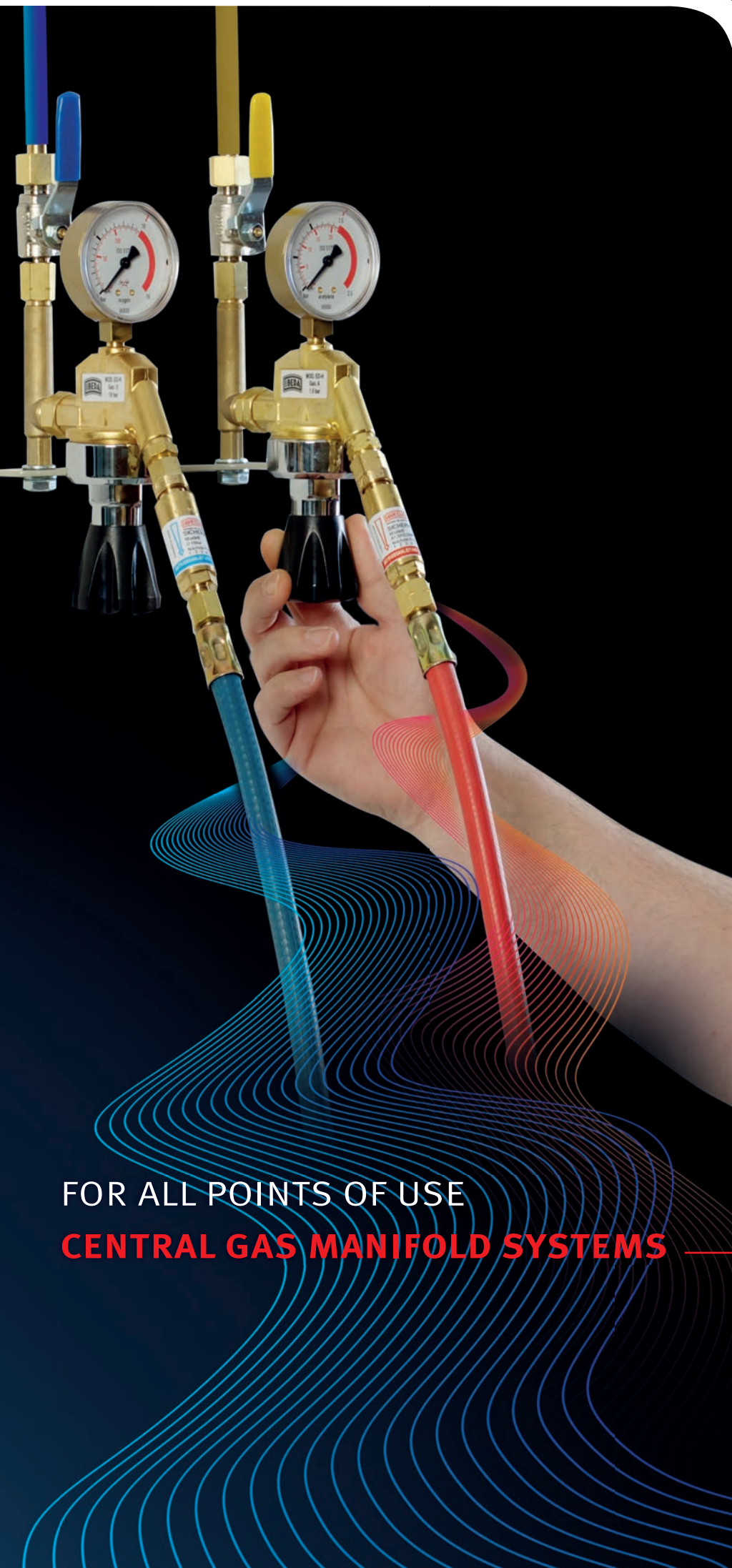
IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

Bahnhofstraße 27 · 53577 Neustadt/Wied

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.com · info@ibeda.com





FOR ALL POINTS OF USE
CENTRAL GAS MANIFOLD SYSTEMS



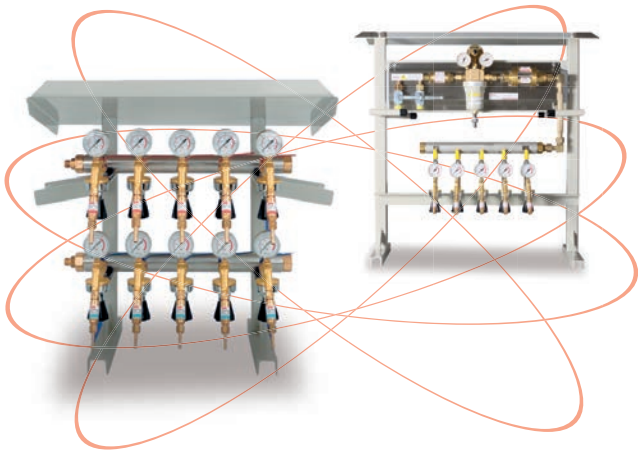
SECURE THE ADVANTAGES!

Effective synergies and new possibilities abound when you combine the IBEDA product lines of Flame Spraying, Gas Manifold Systems, Gas Safety Engineering and Autogenous Engineering.

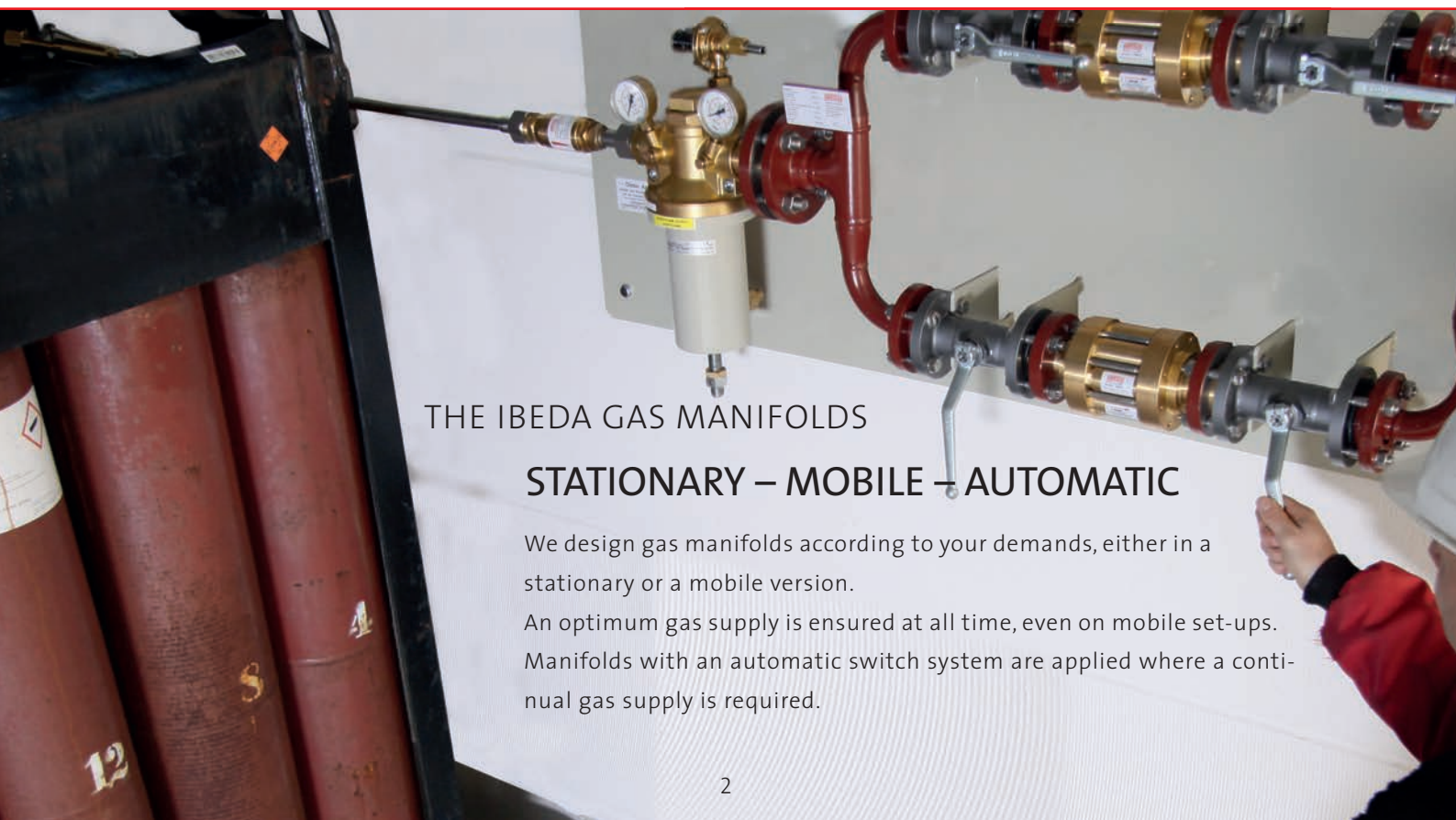
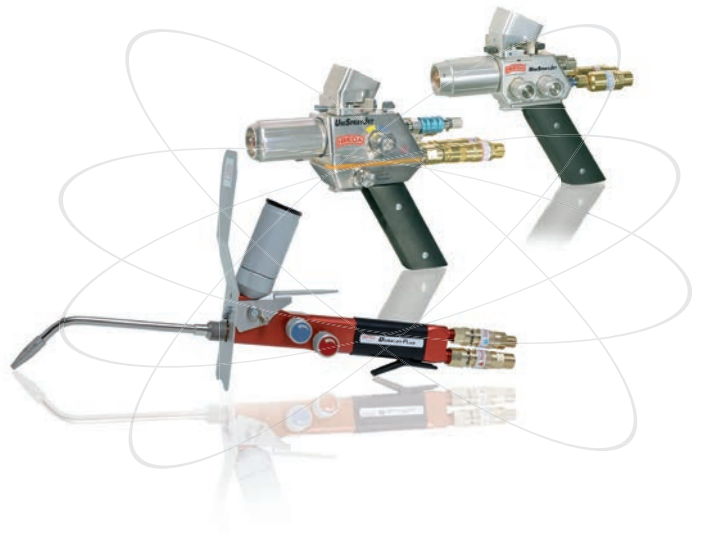
That means: flexible, affordable, certified and safe products and production solutions from a single supplier, as well as conservation of affordable natural resources.

We will never compromise on safety. We are committed to the ongoing development of new products as well as continuing to improve our existing products. We are able to provide well-engineered and reliable safety solutions for every industrial application, all with certification!

GAS MANIFOLD SYSTEMS



FLAME SPRAYING



THE IBEDA GAS MANIFOLDS

STATIONARY – MOBILE – AUTOMATIC

We design gas manifolds according to your demands, either in a stationary or a mobile version.

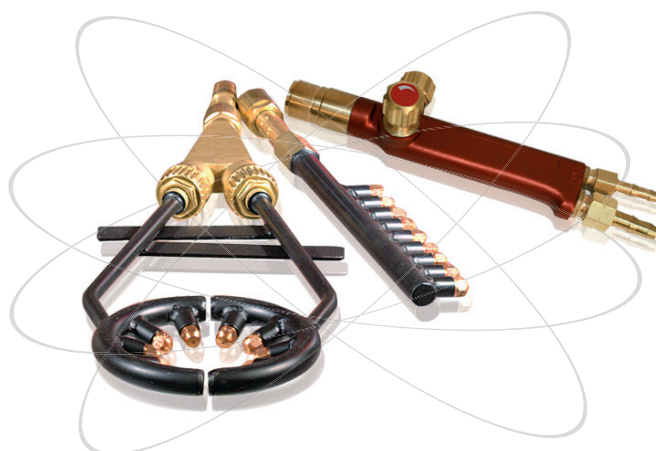
An optimum gas supply is ensured at all time, even on mobile set-ups.

Manifolds with an automatic switch system are applied where a continual gas supply is required.

CERTIFIED SAFETY - WORLDWIDE!

GAS SAFETY ENGINEERING

AUTOGENOUS ENGINEERING



FOR ALL POINTS OF USE!

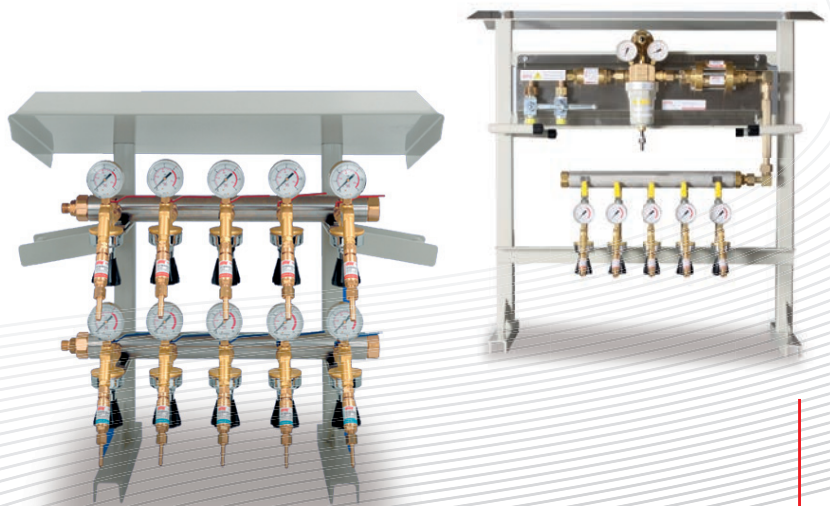
QUALITY AND ADVANTAGES OF THE IBEDA GAS MANIFOLDS	p. 4–5
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GAS SUPPLY STATIONS:	
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MOBILE GAS SUPPLY STATION	p. 9
STATIONARY, OXYGEN AND TECHNICAL GASES	p. 10
STATIONARY MECHANICALLY CONTROLLED AUTO-CHANGE MANIFOLD, OXYGEN AND TECHNICAL GASES	p. 10
STATIONARY, PNEUMATICALLY CONTROLLED AUTO-CHANGE MANIFOLD, OXYGEN AND TECHNICAL GASES	p. 11
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STATIONARY OR MOBILE:

HIGHEST QUALITY!

With over 50 years of experience IBEDA produces the highest quality manifold systems and gas safety equipment in the world. IBEDA gas manifolds comply with worldwide standards and safety requirements e.g. DIN, EN, ISO etc. and ensure safety around the world. Due to their safety, reliability and outstanding price-performance ratio, IBEDA manifolds are used on all continents for a wide variety of applications and industries.



CERTIFIED SAFETY



MORE ADVANTAGES!

4

MORE SAFETY

through worldwide approved safety features. IBEDA manifolds offer a maximum safety by clear handling and a reduced risk of accidents. Additionally, the user benefits from not having loose cylinders throughout the work place.

MORE SERVICE

through customised solutions. The durable and sturdy design of the IBEDA manifolds require only minimum maintenance due to the easily accessible and exchangeable components and spare-parts.

EASY TO INSTALL

through a modular concept. Assembly and installation of the components is quick and easy.

FOR EVERY APPLICATION

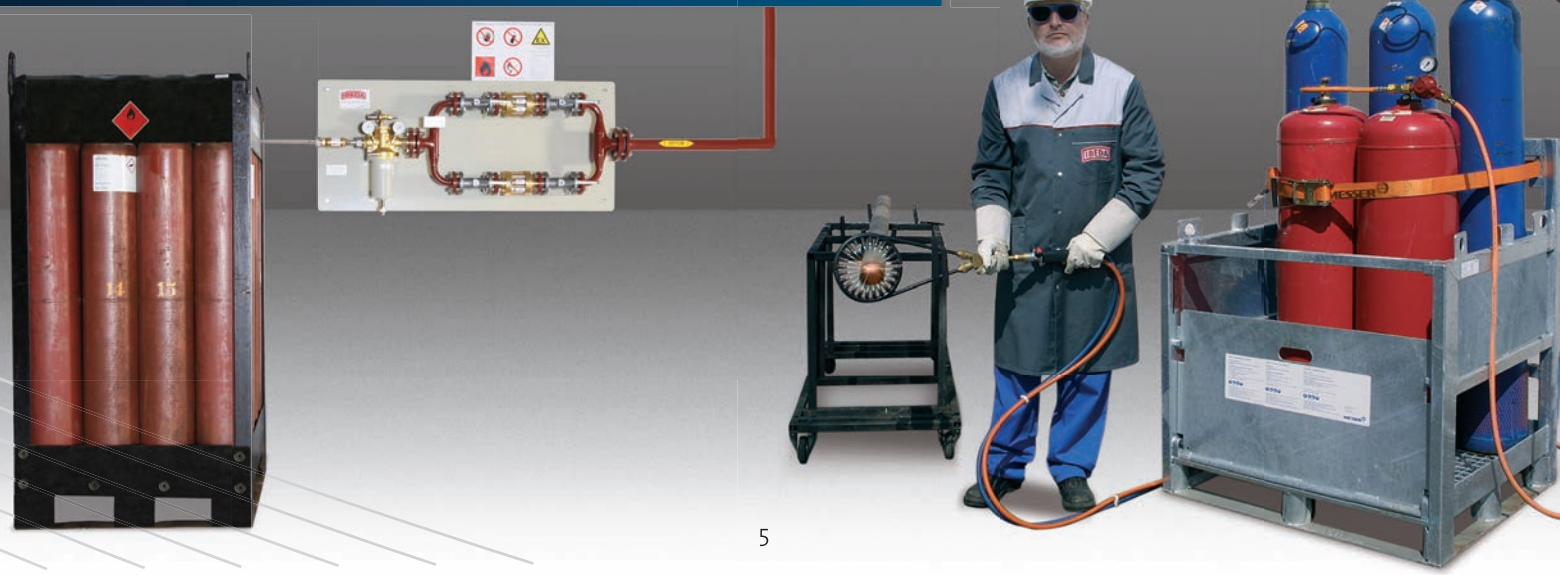
IBEDA offers standard components or customised solutions.

FUTURE-PROOF

IBEDA gas manifolds are suitable for working pressures up to 300 bar. They provide durability, effectiveness and efficiency of your cylinder inventory.

COMPACT AND TIME-SAVING

through the easy installation of the IBEDA gas manifolds in even the smallest spaces. The time-consuming transport of single gas cylinders is no longer necessary. Increased cost-saving due to better time management and reduction of your cylinder inventory.



CENTRAL GAS SUPPLY

FOR ALL POINTS OF USE

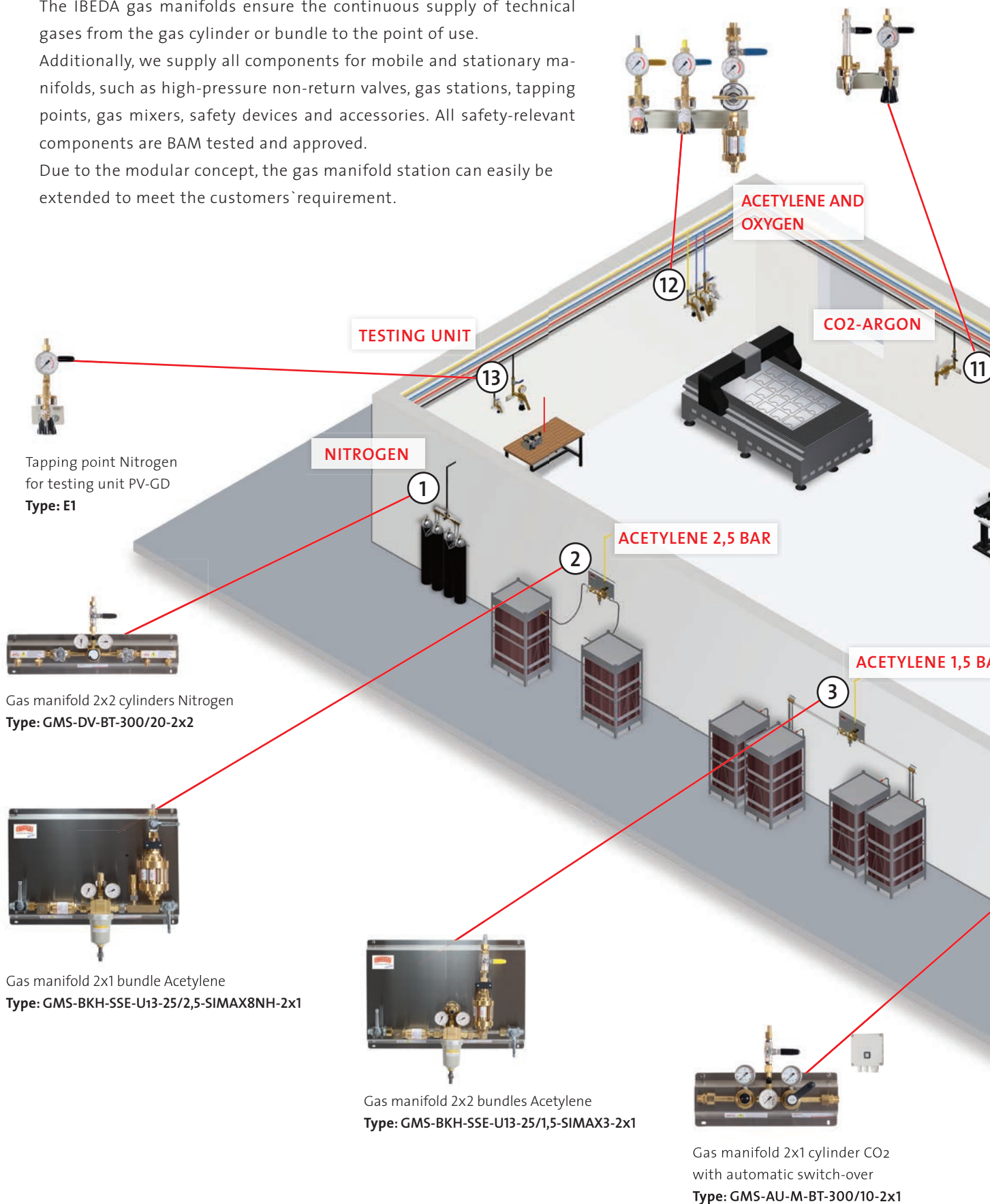
The IBEDA gas manifolds ensure the continuous supply of technical gases from the gas cylinder or bundle to the point of use.

Additionally, we supply all components for mobile and stationary manifolds, such as high-pressure non-return valves, gas stations, tapping points, gas mixers, safety devices and accessories. All safety-relevant components are BAM tested and approved.

Due to the modular concept, the gas manifold station can easily be extended to meet the customers` requirement.

Tapping points for
cutting machines
Type: E1 and E10

Tapping points for
welding machines
Type: E1



Tapping point for
 heating burners
 Type: E10



Tapping point for flame
 spraying cabinets
 Type: E1-AL



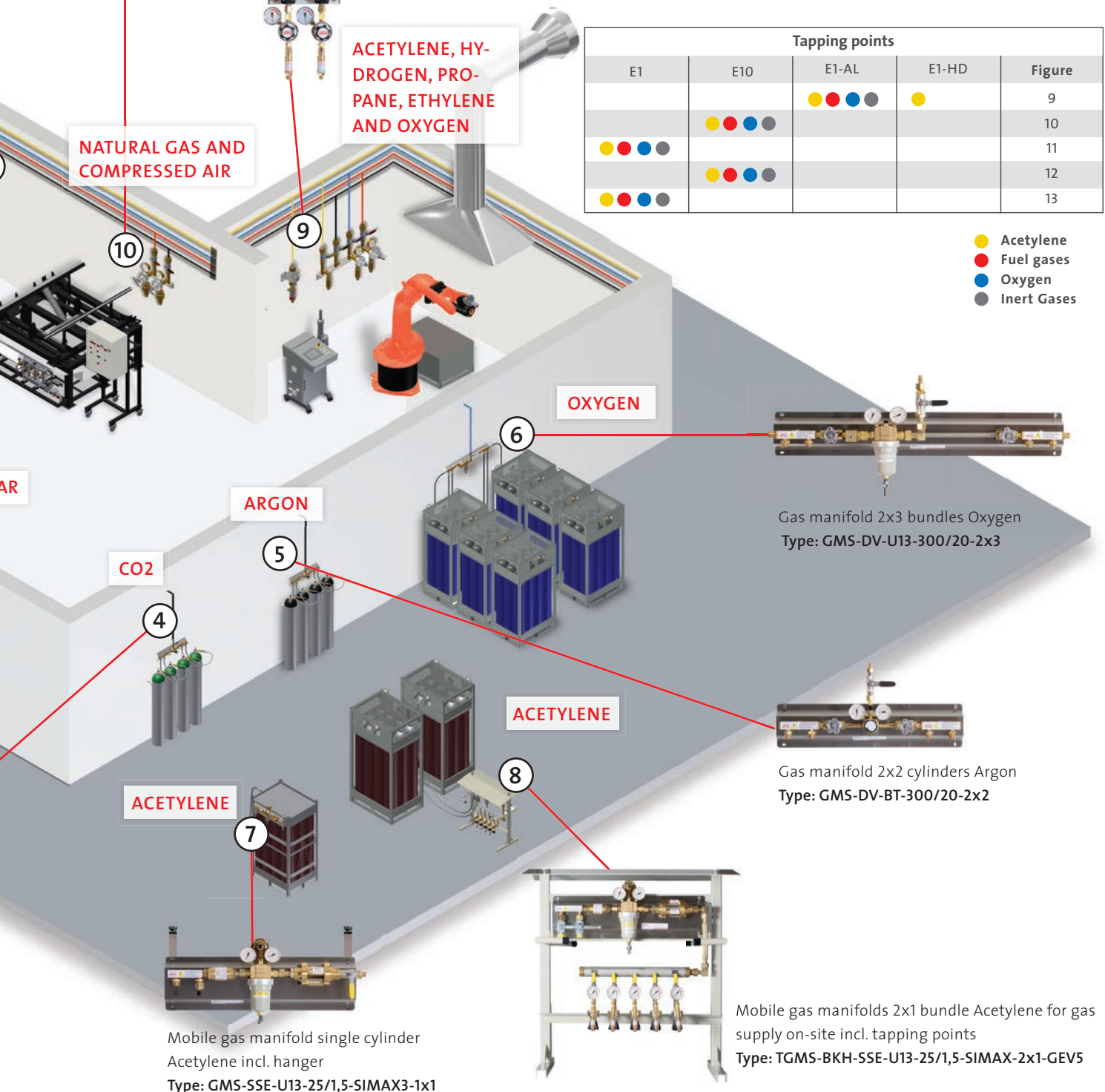
**ACETYLENE, HY-
 DROGEN, PRO-
 PANE, ETHYLENE
 AND OXYGEN**

**NATURAL GAS AND
 COMPRESSED AIR**

GAS MANIFOLDS					
stationary				mobile	Figure
manual	mechanically controlled auto- change	pneumatically controlled auto- change	electrically controlled auto- change		
● ● ● ●	● ● ● ●	● ● ●	● ● ● ●		1
●					2
●	●		●		3
● ● ● ●	● ● ● ●	● ● ●	● ● ● ●		4
● ● ● ●	● ● ● ●	● ● ●	● ● ● ●		5
● ● ● ●	● ● ● ●	● ● ●	● ● ● ●		6
				●	7
				● ● ● ●	8

Tapping points				
E1	E10	E1-AL	E1-HD	Figure
		● ● ● ●	●	9
	● ● ● ●			10
● ● ● ●				11
	● ● ● ●			12
● ● ● ●				13

● Acetylene
 ● Fuel gases
 ● Oxygen
 ● Inert Gases



GAS MANIFOLD SYSTEMS

STATIONARY, ACETYLENE 1,5 BAR



Fig. 3002-0630

IBEDA gas manifolds for Acetylene comply with DIN EN 14114 and TRAC 204, 206 and 208. They are mounted on a stainless steel plate and are BAM tested and approved.

The modular design provides the highest flexibility in installation and ensures to meet the customer's requirement. The entire capacity range up to 150 m³/h can be covered using this modular concept.

Description		Design	Capacity (m ³ /h)	Part-No.
GMS-SSE-BT-25/1,5-DG91N-1x1	1x1 cylinder/bundle	single-sided	5,0 m ³ /h	3002-0626
GMS-BKH-SSE-BT-25/1,5-DG91N-2x1	2x1 cylinder/bundle	double-sided	5,0 m ³ /h	3002-0627
GMS-BKH-SSE-BT-25/1,5-DG91N-2x2	2x2 cylinders/bundles	double-sided	5,0 m ³ /h	3002-0405
GMS-BKH-SSE-BT-25/1,5-DG91N-2x3	2x3 cylinders/bundles	double-sided	5,0 m ³ /h	3002-0425
GMS-SSE-BT-25/1,5-DG91N-1x1	1x1 cylinder/bundle	single-sided	5,0 m ³ /h	3002-1311
GMS-SSE-BT-25/1,5-DG91N-1x2	1x2 cylinders/bundles	single-sided	5,0 m ³ /h	3002-0628
GMS-SSE-BT-25/1,5-DG91N-1x3	1x3 cylinders/bundles	single-sided	5,0 m ³ /h	3002-0446
GMS-BKH-SSE-U13-25/1,5-SIMAX3-2x1	2x1 bundle	double-sided	24,0 m ³ /h	3002-0630
GMS-BKH-SSE-U13-25/1,5-SIMAX3-2x2	2x2 bundles	double-sided	24,0 m ³ /h	3002-1610
GMS-SSE-U13-25/1,5-SIMAX3-1x1	1x1 bundle	single-sided	24,0 m ³ /h	3002-1566
GMS-BKH-SSE-U47-25/1,5-SIMAX8-2x1	2x1 bundle	double-sided	70,0 m ³ /h	3002-1738

STATIONARY, ACETYLENE 2,5 BAR

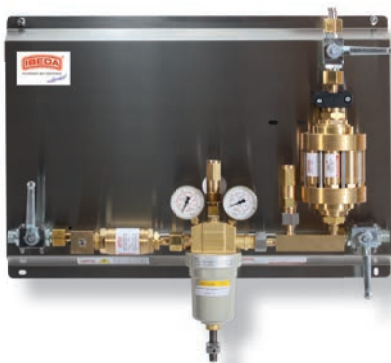


Fig. 3002-1709

IBEDA gas manifolds for Acetylene according to DIN EN 14114 for a working pressure of 2,5 bar are required for special applications, such as high-velocity flame spraying. All safety-relevant components are BAM tested and approved. Pressure regulator and pipelines are designed for the special demand.

Description		Design	Capacity (m ³ /h)	Part-No.
GMS-BKH-SSE-U13-25/2,5-SIMAX5NH-2x1	2x1 cylinder/bundle	double-sided	25,0 m ³ /h	3002-1739
GMS-BKH-SSE-U13-25/2,5-SIMAX8NH-2x1	2x1 cylinder/bundle	double-sided	25,0 m ³ /h	3002-1709
GMS-BKH-SSE-U13-25/2,5-SIMAX3NH-2x1	2x1 cylinder/bundle	double-sided	25,0 m ³ /h	3002-1264

STATIONARY AUTO-CHANGE MANIFOLD **ACETYLENE**



Fig. 3002-0639

IBEDA gas manifolds for Acetylene with automatic change-over unit comply with DIN EN 14114 and TRAC 204, 206 and 208. They are supplied in either a mechanical or electrical version. The mechanical change-over is realised by the pressure level set at the main pressure regulator. The control signal of the contact gauge can be sent to an alarm panel either with an optical or an audible signal indicating that a cylinder/MCP (multi cylinder pack) needs to be changed. The electrical switch-over unit is additionally equipped with a solenoid valve which allows for the continuous supply of gas. The contact gauge is always installed at the high-pressure area in order to ensure sufficient pressure difference for smooth change-over cycles.

Description		Design	Capacity (m³/h)	Part-No.
GMS-AU-M-KM-SSE-BT-25/1,5-DG91N-2x1-A	2x1 cylinder/bundle	double-sided	5,0 m³/h	3002-0639
GMS-AU-E-KM-SSE-BT-25/1,5-DEMAX-2x1-EEEx-A	2x1 cylinder/bundle	double-sided	5,0 m³/h	3002-1681
GMS-AU-E-KM-SSE-U13-25/1,5-SIMAX5-2x1-EEEx	2x1 cylinder/bundle	double-sided	24,0 m³/h	3002-1551

MOBILE



Fig. 3002-1740

IBEDA mobile gas manifolds with integrated tapping points offer custom solutions for mobile gas supply. Up to six workstations can be supplied simultaneously from two MCPs. All inherent safety devices comply with DIN EN 14114.

Description		Design	Capacity (m³/h)	Part-No.
TGMS-BKH-SSE-U13-25/1,5-SIMAX3-2x1-GEV5	2x1 cylinder/bundle	double-sided	24,0 m³/h	3002-1740
TGMS-DV-U13-300/20-2x1-GEV-5-O	2x1 cylinder/bundle	double-sided	320,0 m³/h	3002-1741
TGMS-DV-U13-300/20-2x1-GEV-5-DN	2x1 cylinder/bundle	double-sided	320,0 m³/h	3002-1742
TGMS-DV-U13-300/20-2x1-GEV-5-HMPY	2x1 cylinder/bundle	double-sided	320,0 m³/h	3002-1743



Fig. 3002-1338 + 0097-0031

IBEDA mobile gas manifolds offer custom solutions for mobile gas supply. All inherent safety devices comply with DIN EN 14114. The hanger ensures the secure mounting of the gas manifold at the MCP rack.

Description		Design	Capacity (m³/h)	Part-No.
GMS-SSE-U13-25/1,5-SIMAX3-1x1(2)-G1/2LH hanger	2x1 cylinder/bundle	double-sided	24,0 m³/h	3002-1338 0097-0031

GAS MANIFOLD SYSTEMS

STATIONARY, OXYGEN AND TECHNICAL GASES



Fig. 3002-0633

IBEDA gas manifolds for Oxygen and technical gases are mounted on stainless steel plates. All safety-related components are BAM tested and approved. The modular design provides the highest flexibility in installation and ensures to meet the customer's requirement. The entire capacity range up to 320 m³/h and cylinder or bundle pressures up to 300 bar can be covered by the modular concept.

Description		Design	Capacity (m ³ /h)	Part-No. Oxygen	Inert Gas	Fuel Gas	Propane
GMS-BT-300/20-1x1-EF	1x1 cylinder/bundle	single-sided	60,0 m ³ /h	3002-0631	3001-1558	3002-1558	
GMS-DV-BT-300/20-2x1	2x1 cylinder/bundle	double-sided	60,0 m ³ /h	3002-1164	3002-0632	3002-1165	
GMS-DV-BT-300/20-2x2	2x2 cylinders/bundles	double-sided	60,0 m ³ /h	3002-0462	3002-0633	3002-1166	
GMS-DV-BT-300/20-2x3	2x3 cylinders/bundles	double-sided	60,0 m ³ /h	3002-1147	3002-0973	3002-1078	
GMS-BT-300/20-1x1	1x1 cylinder/bundle	single-sided	60,0 m ³ /h	3002-0426	3002-1744	3002-1745	
GMS-BT-300/20-1x2	1x2 cylinders/bundles	single-sided	60,0 m ³ /h	3002-1067	3002-0634	3002-1746	
GMS-BT-300/20-1x3	1x3 cylinders/bundles	single-sided	60,0 m ³ /h	3002-1748	3002-1749	3002-1750	
GMS-DV-BT-40/6-2x1-P	2x1 cylinder	double-sided	15,0 m ³ /h				3002-1455
GMS-DV-U11-40/8-2x1-P	2x1 cylinder	double-sided	25,0 m ³ /h				3002-1751
GMS-DV-U11-40/8-2x2-P	2x2 cylinders	double-sided	25,0 m ³ /h				3002-1752
GMS-DV-U13-300/20-2x1	2x1 cylinder/bundle	double-sided	320,0 m ³ /h	3002-1449	3002-0635	3002-1539	
GMS-DV-U13-300/20-2x2	2x2 cylinders/bundles	double-sided	320,0 m ³ /h	3002-1722	3002-0636	3002-1753	
GMS-U13-300/20-1x1	1x1 cylinder/bundle	single-sided	320,0 m ³ /h	3002-1707	3002-1754	3002-1755	
GMS-U13-300/20-1x2	1x2 cylinders/bundles	single-sided	320,0 m ³ /h	3002-1284	3002-1756	3002-1757	
GMS-U13-300/20-1x3	1x3 cylinders/bundles	single-sided	320,0 m ³ /h	3002-0248	3002-1758	3002-1759	
GMS-DV-GVW-BT-300/20-2x1	2x1 cylinder/bundle	double-sided	320,0 m ³ /h	3002-1760	3002-0315		
GMS-DV-GVW-BT-300/20-2x2	2x2 cylinders/bundles	double-sided	320,0 m ³ /h	3002-1762	3002-1761		
GMS-DV-GVW-U13-300/20-2x1	2x1 cylinder/bundle	double-sided	320,0 m ³ /h	3002-1763	3002-0637		
GMS-DV-GVW-U13-300/20-2x2	2x2 cylinders/bundles	double-sided	320,0 m ³ /h	3002-1765	3002-1764		

STATIONARY MECHANICALLY CONTROLLED AUTO-CHANGE MANIFOLD OXYGEN AND TECHNICAL GASES



Fig. 3002-1063

Mechanically controlled IBEDA gas manifolds for Oxygen and technical gases (priority circuit). The mechanical change-over is realised by the pressure level set at the main pressure regulator. The control signal of the contact gauge can be sent to an alarm panel either with an optical or an audible signal indicating that a cylinder/MCP (multi-cylinder pack) needs to be changed.

Description		Design	Capacity (m ³ /h)	Part-No. Oxygen	Inert Gas	Fuel Gas
GMS-AU-M-KM-BT-300/10-2x1-DNO	2x1 cylinder/bundle	double-sided	60,0 m ³ /h	3002-0638	3002-1063	
GMS-AU-M-KM-BT-300/10-2x1-EEX-DHMNOY	2x1 cylinder/bundle	double-sided	60,0 m ³ /h	3002-1766	3002-1767	3002-1768
GMS-AU-M-KM-BT-300/20-2x1-DNO	2x1 cylinder/bundle	double-sided	60,0 m ³ /h	3002-0314	3002-1048	
GMS-AU-M-KM-BT-300/20-2x1-EEX-DHMNOY	2x1 cylinder/bundle	double-sided	60,0 m ³ /h	3002-1772	3002-1774	3002-1689
GMS-AU-M-KM-U13-300/20-2x1 - DNO	2x1 cylinder/bundle	double-sided	320,0 m ³ /h	3002-1773	3002-1295	
GMS-AU-M-KM-U15-300/40-2x1 - DNO	2x1 cylinder/bundle	double-sided	300,0 m ³ /h	3002-1775	3002-1691	

STATIONARY PNEUMATICALLY CONTROLLED AUTO-CHANGE MANIFOLD OXYGEN AND TECHNICAL GASES



Fig. 3002-0640

Pneumatically controlled IBEDA auto-change gas manifolds are pre-adjusted to a defined working pressure. The switch-over unit changes at a differential pressure of 3 bar. The control signal of the contact gauge can be sent to an alarm panel either with an optical or an audible signal indicating that a cylinder/MCP (multi-cylinder pack) needs to be changed.

Description		Design	Capacity (m³/h)	Part-No. Oxygen	Inert Gas	Fuel Gas
GMS-AU-P-KM-BT-300/10-2x1-DNO	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1148	3002-0640	
GMS-AU-P-KM-BT-300/10-2x1-EEX-DHMNOY	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1776	3002-1777	3002-2130
GMS-AU-P-KM-BT-300/20-2x1-DNO	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1779	3002-0407	
GMS-AU-P-KM-BT-300/20-2x1-EEX-DHMNOY	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1780	3002-1781	3002-2133

STATIONARY ELECTRICALLY CONTROLLED AUTO-CHANGE MANIFOLD OXYGEN AND TECHNICAL GASES

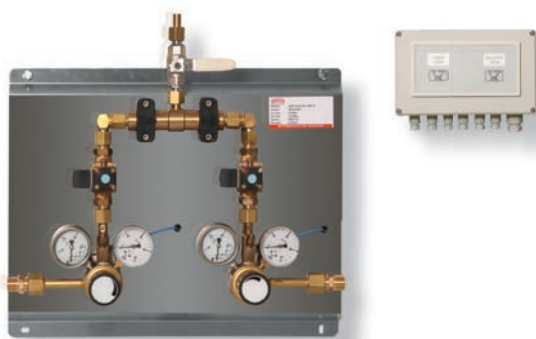


Fig. 3002-1680

Electrically controlled IBEDA auto-change gas manifolds. The electrical switch-over unit is equipped with a contact gauge and a solenoid valve to change over. The contact gauge is always installed at the high-pressure area. The changing pressure is adjustable according to the customer's requirements. This allows for a continuous, uninterrupted supply of gas.

Description		Design	Capacity (m³/h)	Part-No. Oxygen	Inert Gas	Fuel Gas
GMS-AU-E-KM-BT-300/16-2x1-DNO	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1783	3002-1680	
GMS-AU-E-KM-BT-300/16-2x2-DNO	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1784	3002-1732	
GMS-AU-E-KM-BT-300/16-2x1-EEX-DMNOY	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1785	3002-1786	3002-1787
GMS-AU-E-KM-BT-300/16-2x2-EEX-DHMNOY	2x1 cylinder/bundle	double-sided	60,0 m³/h	3002-1788	3002-1789	3002-1790

GAS MANIFOLD SYSTEMS

ACCESSORIES



Fig. 3002-0646

IBEDA cylinder and bundle-collecting pipes are used for the simultaneous withdrawal of gas out of 6 cylinders or 4 bundles. Depending on the application, the collecting pipes have a single or double-sided design.

EXTENSION MODULES FOR CYLINDER/MCP MANIFOLDS

Connection thread M24x1,5

Description	Extension Module for	Part No.
FBSL-E-2 cylinder-collecting pipe	2 cylinders single-sided	3002-0646
FBSL-E-3 cylinder-collecting pipe	3 cylinders single-sided	3002-1791
FBSL-E-4 cylinder-collecting pipe	4 cylinders single-sided	3002-1080
FBSL-Z-2 cylinder-collecting pipe	2 cylinders double-sided	3002-0647
FBSL-Z-3 cylinder-collecting pipe	3 cylinders double-sided	3002-0312
FBSL-Z-4 cylinder-collecting pipe	4 cylinders double-sided	3002-0648
BBSL-E-2 bundle-collecting pipe	2 cylinders single-sided	3002-0649
BBSL-Z-2 bundle-collecting pipe	2 bundles double-sided	3002-0650

Connection thread M36x2 for U47 manifolds

Description	Extension Module for	Part No.
BBSL-E-2-A bundle-collecting pipe	2 bundles single-sided	3002-1793
BBSL-E-3-A bundle-collecting pipe	3 bundles single-sided	3002-1794
BBSL-E-4-A bundle-collecting pipe	4 bundles single-sided	3002-1795
BBSL-E-5-A bundle-collecting pipe	5 bundles single-sided	3002-1796
BBSL-Z-2-A bundle-collecting pipe	2 bundles double-sided	3002-1797
BBSL-Z-3-A bundle-collecting pipe	3 bundles double-sided	3002-1798
BBSL-Z-4-A bundle-collecting pipe	4 bundles double-sided	3002-0565
BBSL-Z-5-A bundle-collecting pipe	5 bundles double-sided	3002-1136



Fig. 0181-0394

CYLINDER/BUNDLE CONNECTION TUBE (300 BAR)

IBEDA cylinder/bundle connection tubes for Oxygen and technical gases with certificated high pressure non-return valve and integrated relief valve conforming to EN 15615 for working pressures of 300 bar.

Description	Gas Type	Length	Part No.
FAS W30x2RH - M24x1,5RH NL1000 RSVE	Inert Gas	1000	0181-0392
BAS W30x2RH - M24x1,5RH NL1800 RSVE	Inert Gas	1800	0181-0396
BAS W30x2RH - M24x1,5RH NL2500 RSVE	Inert Gas	2500	0181-0400
FAS W30x2RH - M24x1,5RH NL1000 RSVE	Compressed Air	1000	0181-0393
BAS W30x2RH - M24x1,5RH NL1800 RSVE	Compressed Air	1800	0181-0397
BAS W30x2RH - M24x1,5RH NL2500 RSVE	Compressed Air	2500	0181-0401
FAS W30x2LH - M24x1,5RH NL1000 RSVE	Fuel Gas	1000	0181-0391
BAS W30x2LH - M24x1,5RH NL1800 RSVE	Fuel Gas	1800	0181-0395
BAS W30x2LH - M24x1,5RH NL2500 RSVE	Fuel Gas	2500	0181-0399
FAS W30x2RH - M24x1,5RH NL1000 RSVE	Oxygen	1000	0181-0390
BAS W30x2RH - M24x1,5RH NL1800 RSVE	Oxygen	1800	0181-0394
BAS W30x2RH - M24x1,5RH NL2500 RSVE	Oxygen	2500	0181-0398



Fig. 0181-0377

CYLINDER/BUNDLE CONNECTION TUBE (ACETYLENE)

IBEDA cylinder/bundle connection tubes for Acetylene with design-type tested high-pressure tube and certificated high-pressure non-return valve conforming to EN 15615 for working pressures of 25 bar.

Description	Gas Type	Length	Part No.
FAS Clamp - M24x1,5RH NL1000-RSV	Acetylene	1000	0181-0371
BAS M28x1,5LH - M24x1,5RH NL1800-RSV	Acetylene	1800	0181-0377
BAS M28x1,5LH - M24x1,5RH NL2500-RSV	Acetylene	2500	0181-0383



Fig. 0181-0381

CYLINDER/BUNDLE CONNECTION TUBE (200 BAR)

IBEDA cylinder/bundle connection tubes for Oxygen and technical gases with certificated high-pressure non-return valve conforming to EN 15615 for working pressures of 200 bar.

Description	Gas Type	Length	Part No.
FAS W21,8x1/14LH - M24x1,5RH NL1000-RSV	Fuel Gas	1000	0181-0373
BAS W21,8x1/14LH - M24x1,5RH NL1800-RSV	Fuel Gas	1800	0181-0379
BAS W21,8x1/14LH - M24x1,5RH NL2500-RSV	Fuel Gas	2500	0181-0385
FAS W21,8x1/14RH - M24x1,5RH NL1000-RSV	Inert Gas	1000	0181-0374
BAS W21,8x1/14RH - M24x1,5RH NL1800-RSV	Inert Gas	1800	0181-0380
BAS W21,8x1/14RH - M24x1,5RH NL2500-RSV	Inert Gas	2500	0181-0386
FAS G3/4RH - M24x1,5RH NL1000-RSV	Oxygen	1000	0181-0372
BAS G3/4RH - M24x1,5RH NL1800-RSV	Oxygen	1800	0181-0378
BAS G3/4RH - M24x1,5RH NL2500-RSV	Oxygen	2500	0181-0384
FAS W24,32x1/14RH - M24x1,5RH NL1000-RSV	Nitrogen	1000	0181-0375
BAS W24,32x1/14RH - M24x1,5RH NL1800-RSV	Nitrogen	1800	0181-0381
BAS W24,32x1/14RH - M24x1,5RH NL2500-RSV	Nitrogen	2500	0181-0387
FAS G5/8RH - M24x1,5RH NL1000-RSV	Compressed Air	1000	0181-0376
BAS G5/8RH - M24x1,5RH NL1800-RSV	Compressed Air	1800	0181-0382
BAS G5/8RH - M24x1,5RH NL2500-RSV	Compressed Air	2500	0181-0388



Fig. 0443-0052

CYLINDER SUPPORT PACK

Description	Gas Type	Part No.
FH1 Cylinder Support Pack compl.	all gases, except Propane	0443-0055
FH1 Cylinder Support Pack compl. Propane	Propane	0443-0053
FH2 Cylinder Support Pack compl.	all gases, except Propane	0443-0052
FH2 Cylinder Support Pack compl. Propane	Propane	0443-0054
FH3 Cylinder Support Pack compl.	all gases, except Propane	0443-0056
FH3 Cylinder Support Pack compl. Propane	Propane	0443-0057



GAS PRE-HEATER GVW 200

The IBEDA gas pre-heater for gas manifold systems for technical gases is used to reduce the occurrence of freezing.

Description	Gas Type	Connection Threads		Part No.
		Inlet	Outlet	
Gas pre-heater 200 Watt GMS PN300	DNO	M24x1,5 -F	M24x1,5 -M	3002-0204
Gas pre-heater U 200 Watt GMS PN300	DNO	M24x1,5 -M	M24x1,5 -F	3002-1792



Fig. 0021-0719

WELDING AND BRAZING FITTING WITH O-RING SEAL

Description	Connection Threads		Part No.
	Inlet	Outlet	
LV G1/2RH M O-Ring - LN18mm O-Ring	G1/2	Ø 18	0021-0792
LV G3/4RH M O-Ring - LN22mm O-Ring	G3/4	Ø 22	0021-0718
LV G1RH M O-Ring - LN28mm O-Ring	G1	Ø 28	0021-0719
LV G1 1/2RH M O-Ring - LN42mm O-Ring	G1 1/2	Ø 42	0021-0720

GAS MANIFOLD SYSTEMS

TAPPING POINTS

IBEDA supplies tapping points for the gas supply, matched to the gas type, the working pressure and the flow rate. Operating pressures for Acetylene up to 2,5 bar and Oxygen or technical gases up to 60 bar. Flow rates up to 200 m³/h are standard. Customised solutions can be offered.



Model E1 and E10



Model E1-AL



Fig. 0439-0103

MODEL E1

IBEDA tapping points are characterised by their compact design and their high operational reliability. The tapping points are supplied with connection body, shut-off valve, brazing and welding nipple and swivel nut for the gas inlet side.

Description	Gas Type	Part No.
E1-A Tapping Point Welding Nipple 12-G3/8LH	Acetylene	0439-0102
E1-O Tapping Point Welding Nipple 12-G3/8RH	Oxygen	0439-0103
E1-B Tapping Point Welding Nipple 12-G3/8LH	Fuel Gas	0439-0104
E1-N Tapping Point Welding Nipple 12-G3/8RH	Inert Gas	0439-0105



Fig. 0439-0149

MODEL E10

The E10 tapping points with 1/2" connections are suitable for higher gas withdrawals. They are characterised by their compact design and their high operational reliability. The tapping points are supplied with connection body, shut-off valve, brazing and welding nipple and swivel nut for the gas inlet side.

Description	Gas Type	Part No.
E10-A Tapping Point G1/2LH - SV-1/2"	Acetylene	0439-0146
E10-O Tapping Point G1/2RH - LV-18	Oxygen	0439-0147
E10-B Tapping Point G1/2LH - LV-18	Fuel Gas	0439-0148
E10-N Tapping Point G1/2RH - LV-18	Inert Gas	0439-0149

BRACKETS FOR E1 AND E10

IBEDA brackets for quick installation of the tapping points.



Fig. 0158-0001.B

Description	Part No.
Bracket for one tapping point	0158-0001.B
Bracket for two tapping points	0158-0002.B
Bracket for three tapping points	0158-0003.B
Bracket for four tapping points	0158-0004.B



Fig. 0439-0203

MODEL E1AL

IBEDA tapping points are characterised by their compact design and their high operational reliability. The tapping points are supplied with connection body, shut-off valve, brazing and welding nipple and swivel nut for the gas inlet side. Straight outlet for pressure regulator type ED-HS

Description	Gas Type	Part No.
E1AL-A Tapping Point SN 12-G3/8LH	Acetylene	0439-0202
E1AL-O Tapping Point LN 12-G3/8RH	Oxygen	0439-0203
E1AL-B Tapping Point LN 12-G3/8LH	Fuel Gas	0439-0204
E1AL-N Tapping Point LN 12-G3/8RH	Inert Gas	0439-0205



Fig. 0158-0019

WALL BRACKET FOR E1-AL

IBEDA aluminium wall bracket for quick installation of the E1-AL tapping points.

Description		Part No.
Wall Bracket for one tapping point	aluminium bracket, L100	0158-0019
Wall Bracket for two tapping points	aluminium bracket, L200	0158-0020



Fig. 0403-0073

MOBILE TAPPING POINT DISTRIBUTOR MODEL GEV-5

IBEDA mobile tapping points are used for the mobile gas supply of welding and cutting stations with Fuel Gases and Oxygen. Five workstations can be supplied simultaneously. Tapping point pressure regulator and safety equipment must be ordered separately according to the application conditions.

Description	Gas Type	Part No.
GEV-5 Gas Distributor G1/2RH-G3/8RH -O-	Oxygen	0403-0072
GEV-5 Gas Distributor G1/2LH-G3/8LH -HMPY-	Fuel Gas	0403-0073
GEV-5 Gas Distributor G1/2LH-G3/8LH -A-	Acetylene	0403-0083
GEV-5 Gas Distributor G1/2RH-G3/8RH -DN-	Inert Gas	0403-0168

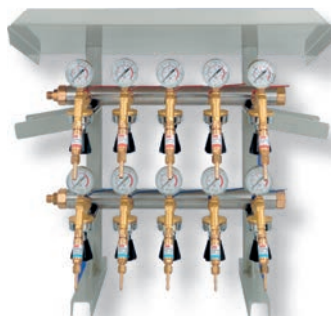


Fig. 0403-0074

MOBILE DISTRIBUTOR MODEL GEV-2X5

IBEDA gas distributors with a weather protection roof are used to supply five welding stations with Fuel Gas and Oxygen on construction sites. Tapping points and safety equipment are optional.

Description	Gas Type	Part No.
GEV-2x5 Gas Distributor G1/2-G3/8-G1/2LH-G3/8LH	Oxygen / Acetylen	0403-0074
GEV-2x5 Gas Distributor G1/2-G3/8-G1/2LH-G3/8LH	Oxygen / Fuel Gas	0403-0183
GEV-2x5 Gas Distributor G1/2-G3/8-G1/2LH-G3/8LH	Inert Gas / Fuel Gas	0403-0205

GAS MANIFOLD SYSTEMS

TAPPING POINTS



Fig. 0432-0472

TAPPING POINT PRESSURE REGULATOR MODEL ED-H / EDF-H

IBEDA tapping point pressure regulator comprise a sturdy brass housing with pressure gauges conforming to EN 562. The regulators are insusceptible to malfunctions and have a high flow rate.

Description	Gas Type	Connection Threads		Capacity	Part No.
		Inlet	Outlet		
ED-H Pressure Regulator Acetylene 1,5 bar	Acetylene	G3/8LH	G3/8LH	9,0 m³/h	0432-0471
ED-H Pressure Regulator Oxygen 10 bar	Oxygen	G3/8RH	G1/4RH	60,0 m³/h	0432-0472
ED-H Pressure Regulator Fuel Gas 4 bar	Fuel Gas	G3/8LH	G3/8LH	60,0 m³/h	0432-04
ED-H Pressure Regulator Fuel Gas 10 bar	Fuel Gas	G3/8LH	G3/8LH	5,0 m³/h	0432-0474
ED-H Pressure Regulator Inert Gases 10 bar	Inertgas	G3/8RH	G1/4RH	30,0 m³/h	0432-0475
ED-H Pressure Regulator Shielding Gas 0-30 l/min	Inert Gas	G3/8RH	G1/4RH	30,0 l/min	0432-0476
EDF-H Pressure Regulator Shielding Gas 0-30 l/min	Inert Gas	G3/8RH	G1/4RH	30,0 l/min	0432-0477
EDF-H Pressure Regulator Shielding Gas 14 l/min	Inert Gas	G3/8RH	G1/4RH	14,0 l/min	0432-0478



Fig. 0432-0480

TAPPING POINT PRESSURE REGULATOR MODEL ED-HH

IBEDA tapping point pressure regulator for use in laser systems comprise a sturdy brass housing with pressure gauges conforming to EN 562. The regulators are insusceptible to malfunctions and the working pressure can be adjusted up to 4.0 MPa (40 bar).

Description	Gas Type	Connection Threads		Capacity	Part No.
		Inlet	Outlet		
EDHH Pressure Regulator Acetylene 1,5 bar	Acetylene	G1/2LH	G1/2LH	16,0 m³/h	0432-0470
EDHH Pressure Regulator Oxygen 40 bar	Oxygen	G1/2RH	G1/2RH	120,0 m³/h	0432-0480
EDHH Pressure Regulator Fuel Gases 15 bar	Fuel Gas	G1/2LH	G1/2LH	120,0 m³/h	0432-06
EDHH Pressure Regulator Inert Gases 40 bar	Inert Gas	G1/2RH	G1/2RH	120,0 m³/h	0432-0481



Fig. 0432-0707

TAPPING POINT PRESSURE REGULATOR MODEL ED-HS

IBEDA tapping point pressure regulators comprise a sturdy brass housing with pressure gauges conforming to EN 562. The regulators have a straight outlet and are suitable for installation on the E1-AL tapping points.

Description	Gas Type	Connection Threads		Capacity	Part No.
		Inlet	Outlet		
ED-HS Pressure Regulator Acetylene 1,5 bar	Acetylene	G3/8LH	G3/8LH	9,0 m³/h	0432-0707
ED-HS Pressure Regulator Oxygen 10 bar	Oxygen	G3/8RH	G1/4RH	60,0 m³/h	0432-0706
ED-HS Pressure Regulator Fuel Gas 10 bar	Fuel Gas	G3/8LH	G3/8LH	60,0 m³/h	0432-0746
ED-HS Pressure Regulator Propane 4 bar	Propane	G3/8LH	G3/8LH	5,0 m³/h	0432-0747
ED-HS Pressure Regulator Inert Gases 10 bar	Inert Gas	G3/8RH	G1/4RH	60,0 m³/h	0432-0748
ED-HS Pressure Regulator Inert Gases 30 l/min	Inert Gas	G3/8RH	G1/4RH	30,0 l/min	0432-0750

OTHER ACCESSORIES



Fig. 0434-0051

HIGH PRESSURE NON-RETURN VALVE (RSV) EN 15615

IBEDA gas non-return valves are used in cylinder/bundle connection lines directly downstream of the connection fitting. They reliably prevent the penetration of air or the unintended change in gas flow direction.

Description	Gas Type	Connection Threads		Part No.
		Inlet	Outlet	
RSV M16x1,5RH F/M, DHMNOPI	DHMNOPI	M16x1,5 -F	M16x1,5 -M	0434-0051
RSV M16x1,5RH F/M, A	A	M16x1,5 -F	M16x1,5 -M	0434-0052

Other connection threads available on request.



Fig. 3000-0521

AUTOMATIC QUICK-ACTION SHUT-OFF VALVE (SSE) EN 15615

IBEDA safety device for installation in the Acetylene high-pressure line directly upstream of the main pressure regulator.

Description	Gas Type	Connection Threads		Part No.
		Inlet	Outlet	
SSE G3/4-F	Acetylene	G3/4 -F	G3/4 -F	3000-0521



Fig. 3000-0299

FLASHBACK ARRESTORS EN 730-1

IBEDA flashback arrestor for installation in the Acetylene medium-pressure line directly downstream of the main pressure regulator to protect the pipeline.

Description	Gas Type	Connection Threads		Part No.
		Inlet	Outlet	
DG91N G1/2RH Fuel Gas	AHMPY	G1/2 -F	G1/2 -M	3000-0414
DEMAX 5N G1RH-F Fuel Gas	AHMPY	G1 -F	G1 -F	3000-0185
SIMAX 3N G1RH-F Fuel Gas	AHMPY	G1 -F	G1 -F	3000-0187
SIMAX 5N G1RH-F Fuel Gas	AHMPY	G1 -F	G1 -F	3000-0299
SIMAX 8N G1RH-F Fuel Gas	AHMPY	G1 -F	G1 -F	3000-0415



Fig. 0473-0117

GAS FILTER FOR INSTALLATION IN PIPELINES

IBEDA gas filter for pipeline installation to ensure reliable protection against dust particles. The filter mesh is 100 μ m.

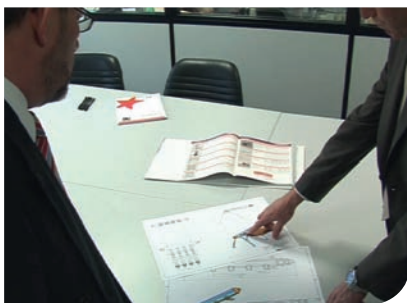
Description	Connection Threads		Part No.	Working Pressure (bar)
	Inlet	Outlet		
HD-GF-10-300/15-F M16x1,5RH F	M16x1,5-F	M16x1,5-F	0473-0095	300
HD-GF-10-300/15 M24x1,5RH nut/M	M24x1,5-F	M24x1,5-M	0473-0046	300
GF-10-40/50 Gas filter G3/8RH F/M T-Form	G3/8 -F	G3/8 -M	0473-0107	40
GF-10-40/50 Gas filter G3/8LH F/M T-Form	G3/8LH-F	G3/8LH-M	0473-0108	40
GF-25-40/100 Gas filter - G1 F T-Form	G1-F	G1-F	0473-0117	40

THE IBEDA PLANNING SERVICE

FOR YOUR GAS MANIFOLD SYSTEMS



No matter what gas manifold requirements you have, we'll focus on a customised solution - irrespective of whether you are looking for a stationary or mobile solution, a new system or an extension to an existing one. So you can focus on your production.



AT A GLANCE

- Analysis of the operation-specific gas requirement
- Analysis of the operational processes
- Planning and design of central gas manifold systems
- Optimisation of existing supply equipment

WITH EFFECTIVE SOLUTIONS FOR DAILY USE



IBEDA gas distributors for four different gases with a heavy-duty stainless steel housing. The rear side consists of a removable perforated plate.

Industries: Wagon building

Operating pressure: 1,5/10,0 bar

IBEDA gas manifold systems are planned and designed in close cooperation with our customers. We handle both the supply from cylinders/MCPs and also the control system to supply the user-specific consumers.

Mobile gas manifold system for 2 x 3 Acetylene MCPs for the gas supply of a large burner with 37 m³/h of Acetylene incl. ignition burner.

Industries: Steel industry

Working pressure: 1,5 bar



Gas manifold system for Natural Gas and Oxygen for the gas supply of a pre-heating burner.

Industries: Plant construction

Working pressure:

100 mbar / 250 mbar



Gas supply system for the media: Acetylene, Oxygen, Propane, compressed air as well as cooling water supply and return line - for the gas supply of heating burners with water cooling, cutting torches and ignition burners.

Industries: Gas manufacturers

Working pressure: 1,5 to 12,0 bar



Electrically controlled auto-change manifold for Acetylene for the gas supply comprising 2 x 3 MCPs.

Industries: Shipbuilding / shipyards

Working pressure:

2,5 bar



IBEDA GAS MANIFOLD SYSTEMS WORLDWIDE IN USE

IBEDA Sicherheitsgeräte und Gastechnik GmbH & Co. KG

Bahnhofstraße 27 · 53577 Neustadt/Wied

Tel. +49(0)2683.306-0 · Fax +49(0)2683.306-31

www.ibeda.de · info@ibeda.de

